A Presidential Address

ON

THE INFLUENCE OF EXTREME SLOWNESS OF PULSE IN THE CAUSATION OF EPILEPTIFORM CONVULSIONS.

To have been delivered at the Meeting of the Medical Society of London on Oct. 16th, 1893,[1]

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THE subject to which I propose to address myself this evening is one of much clinical interest, to which my attention has been directed for many years past, but on which, so far as I know, little has been written, on which scarcely any light has been thrown by either clinical or pathological investigation, and to which I must confess I can contribute little beyond the simple narrative of three typical cases that have come under my observation. The earliest recorded cases that I know of appeared in THE LANCET in 1885. The first in order was one by Mr. F. St. George Mivart, published in the beginning of that year.[2] The patient was a man aged sixty-one, who for six years had been liable at intervals to slight epileptic seizures, and who during the period he was under observation had a pulse-rate which varied between 20 and 26 in the minute. He was described as anæmic, as having a slight (apparently systolic) murmur at the base of the heart, and a soft systolic bruit, like a prolonged first sound, at the apex. The urine contained a trace of albumen. Mr. Mivart's conclusion was that "the seizures were simply swoons, modified by the patient's epileptic tendency." The second case was one reported in much detail by Dr. A. T. Gibbings in THE LANCET of Feb. 14th, 1885. The patient was a tall, spare man aged sixty-six. He had worked hard at his office, and had had a good deal of worry and anxiety in domestic matters; his pulse had been liable to frequent intermissions as long as he could recollect. He first consulted Dr. Gibbings in May, 1882, for weakness, attacks of dyspnœa induced by exertion but coming on also in the night, and a troublesome, noisy cough. His heart was free from murmur, intermittent, but beating about 60 in the minute; and his urine was free from albumen. He continued ill for some months, but was able to return to business on Nov. 21st. On Dec. 2nd Dr. Gibbings was again requested to see him, and was struck with the fact that his pulse was now only 44 in the minute, but quite regular. He grew steadily worse, and on Jan. 3rd, 1883, was seen in consultation with Sir Andrew Clark. He complained of dyspnœa on the least exertion, and of frequent feelings of faintness; and his pulse was regular and only 34. Subsequently the pulse (continuing regular) became slower and slower, the feelings of faintness being much more frequent, and then associated with epileptiform attacks. The face became deadly pale, the pupils dilated, and the eyes fixed; the pulse ceased to be felt at the wrist. After a few seconds it returned feebly; the face then flushed all over, and clonic convulsive tremors lasted for five or six seconds. The first indication of an attack was the non-recurrence of the usual pulse beat. He generally had an aura consisting in a feeling of hot fluid at the back of the neck. On Jan. 20th he was seen in consultation with Dr. Moxon. After this the patient became much worse; the fits became distressingly frequent, and apt to be brought on by the slightest exertion. His pulse became slower (though still regular), and on Jan. 20th was counted at 12 to the minute. Henceforth it varied between 15 and 31, and, curiously, the rate appeared to increase as the end approached. After Feb. 26th he seemed to improve, and he got up and worked at his books for two or three hours a day; but he still suffered from dyspnœa on exertion, his pulse, however, beating at the rate of from 30 to 34 to the minute. On March 6th, while at stool, he fainted, and died in two or three minutes. It may be added that his intellect was always clear, that his heart was of normal size and free from murmur, that his temperature was always subnormal—never, indeed, rising to 98° F.—and that (excepting for the presence of albuminuria for a few days in February) his urine was always normal. At the post-mortem examination, at which Dr. Moxon was present, the heart and all the organs were found to be apparently perfectly healthy; there was, however, about a pint of serous fluid in the right pleura. Dr. Gibbings, in discussing the above case, attributes—and, I think, rightly attributes—the epileptic attacks to anæmia of the brain, brought about by the slow action of the heart—assuming (as I understand him) that the fits were directly due to intermissions in the heart's action occurring at moments when the heart's beats were unduly slow; and he suggests that the slow action of the heart was caused either by some irritative lesion of the vagus or some degenerative lesion of the cardiac ganglia.

The third case appeared in THE LANCET of March 7th, 1885, and is one which I contributed. Curiously, while the first two cases have frequently been quoted, my case has been largely, if not entirely, overlooked; yet, while in the main agreeing with the other two, it presents one or two additional interesting features. The case is not a long one, and, as it seems to have been wholly forgotten, I will venture to quote my communication to THE LANCET word for word:—

"The interesting case narrated by Dr. Gibbings in your issue of Feb. 14th reminds me of one the notes of which I have long had by me, with the object of publishing whenever a suitable occasion should present itself. I was much interested in it because it seemed to me to show conclusively the effect of cerebral anæmia in the causation of epileptic or epileptiform attacks. The following is a copy, with only a few verbal alterations, of the case as I wrote it out at the time.

"W. P——, aged thirty-one, was admitted under the care of the late Dr. Goolden on May 4th, 1869. He had been a soldier, and was in India for four years, during which time he contracted syphilis and suffered from 'fever and ague,' and was discharged after twelve years' service on account of 'weakness of constitution.' He has never had rheumatism, and never suffered from shortness of breath or palpitation previously to the present illness. This came on two weeks before admission. At that time, under some mental excitement, he jumped over some palings in order to prevent a fight. He was immediately attacked with faintness, but recovered from it very shortly. The next morning he woke up with 'heavy' breathing, which also soon subsided. In the evening it returned, and he had a fit in which he lost consciousness. From that time he has had to give up work, and attacks of dyspnœa, followed by losses of consciousness, have recurred frequently night and day up to the time of admission. The fits have all been preceded by 'faintness at the chest,' followed by flushings, on the occurrence of which insensibility has supervened. He once bit his tongue slightly. He has had no pain in the chest or elsewhere. He was ordered to take quinine and iron and two glasses of wine daily. 14th: I saw him to-day for the first time, and learnt that almost constantly since admission his pulse had been beating very slowly, sometimes not more than 26 in the minute, and that he had had frequent fits night and day. These had been of very short duration and attended with a little struggling. He had been carefully watched by some of the advanced students in some of these fits, and according to them it seemed clear that the fits always came on at the end of an unusually long interval between successive cardiac beats; that while the pulse was at the rate of one beat in three seconds, or even four seconds, no fit occurred, but that whenever, and only when, the intermission was prolonged to five seconds a fit followed at the end of that period. He is free from fits this morning and his pulse is beating regularly at the rate of 26 in the minute. There is a loud roaring systolic murmur above and to the right of the apex and prolonged thence to the base. 18th: No fit from the 14th to the 17th; but since the middle of yesterday, and especially during the night, the fits have been very frequent; they vary in length, but insensibility only lasts for a few seconds. He becomes very pale before each fit, then flushes, and while insensible his hands twitch a little. When I saw him the fits had ceased, but the pulse was very irregular. A few regular beats at the rate of 80 in the minute were followed by one or two beats occurring at intervals of about three seconds.

[1] Dr. Bristowe having been too ill to attend at the meeting, the Address was taken as read; hence no report of it appeared at the time in the medical journals.

[2] THE LANCET, Jan. 3rd, 1885.

Systolic murmur loudest towards the base. A little later the pulse was quite regular at the rate of 80 per minute. ... On listening to the heart it was found that its pulsations correspond accurately to the pulsations at the wrist; but between all the beats (attended with sound and perceptible at the wrist), separated from one another by intervals of between two and four seconds, there are one, two, or three slight impulses of the heart distinctly to be felt and seen by the imparted movements of the stethoscope. These latter beats are wholly unattended by cardiac sound or pulsation in the arteries. It seems to me that the action of the heart is quite regular as to rhythm, but that many of its beats are ineffectual. These intermediate impulses are felt at the base of the heart. Are they due to the action of the auricle or to the hardening of a relaxed but empty ventricle? 25th: Has been pretty free from fits, but had a slight one last night; slept well; feels better. Pulse about 80, but irregular. Murmur loudest and roughest towards the base. 28th: No fits, but occasional sensation as if they were coming on. Pulse 58, regular. June 1st: No fits; pulse 72, occasionally a little irregular; murmur as before; complains of pain in left shoulder, running down inner side of the upper arm. 4th: No fits; pulse 72, quite regular; feels much better. 8th: No fits, but pulse irregular; murmurs as before; feels well. On this day he left the hospital, but he attended as an out-patient until the 21st. During this time, though his pulse continued to be somewhat irregular, he remained free from palpitation, shortness of breath, and fits, and expressed himself as feeling fairly well. I never heard of him subsequently." I added to my report on this case, in my letter to THE LANCET, that I had not recorded and did not recollect what my original views had been with respect to its morbid anatomy, but that I was now inclined to suspect that the cardiac disease was syphilitic. Of course this suspicion may have been correct; but my views as to the significance of cardiac murmurs have undergone considerable changes during the last few years, and I confess I am now quite prepared to believe that the murmur was not due to the presence of any organic valvular disease. I may further add, in relation to the case, that the fact that the epileptic seizures come on only at the end of a cessation of the pulse for five seconds was repeatedly verified, and not only by the finger or the radial artery, but also by listening to the sounds of the heart; and that the only treatment adopted was that of the exhibition of tonics, with good feeding, the moderate use of stimulants, and absolute rest in bed.

The second case of the kind that came under my observation occurred twenty-two years later, in the person of a patient of Dr. John Ferrier of South Norwood, whom I saw in consultation with him on Nov. 20th, 1891. The patient was a widow fifty-four years of age, who had a healthy grown-up family, and who, until recently, had enjoyed uninterrupted good health. For the last ten years she had been liable to feel faint in hot and crowded rooms. In the winter of 1889–90 she was laid up for some weeks with pain and swelling in the legs, which were said to be caused by inflammation of veins. In the winter of 1890–91 she was again laid up for several weeks with severe pains in the joints, but no swelling. Her illness was called rheumatic fever; she complained at all times of some uneasiness in the region of the heart, which was said to be weak and to present a "valvular leak." During the summer of 1891 she kept fairly well. In the beginning of September she had a "giddy attack" and nearly fell to the ground. On coming to, she did not at first know where she was. On Oct. 23rd she first came under Dr. Ferrier's care. About 9.30 P.M. she had a giddy attack and fell in the hall, cutting the back of her scalp. The bleeding was rather profuse, and the wound had to be stitched. It was observed that her ankles were œdematous; that her pulse was weak and slow, probably about 50 to the minute (but no note was made at the time); and that there was no cardiac murmur. The wound healed quickly and well. On Oct. 28th she complained of great pain in the muscles of the legs; but there was no swelling of the joints or pyrexia, and only a little œdema of the ankles. She was treated with small doses of salicylate of soda and soon got well. On Nov. 17th there was some return of muscular pain, but as her circulation seemed feeble she was treated with iodide of potassium and liquid extract of cinchona. At 11.30 P.M. on the 19th Dr. Ferrier was summoned to see her. He found her suffering from epileptiform convulsions, which had been coming on about every half-hour. These continued, but diminished to one every hour or two hours during the night. She had vomited after the first attack, and occasionally vomited after the others. The attacks, which lasted only a few seconds each, were attended with pallor, cessation of respiration, loss of consciousness, and slight convulsions. The beats of the heart (as determined by the stethoscope) were for the most part at the rate of about 30 to the minute. On Nov. 20th, during the greater part of the day, the beats of the heart were about 17 to the minute. The fits continued at the rate of about one every half-hour. There was no cardiac murmur, but the urine was slightly albuminous. At 5 P.M. I saw her in consultation with Dr. Ferrier. When I entered the room she was just recovering from an attack and breathing heavily; but some seconds elapsed before she spoke or knew what was going on. At this time the pulse was fairly regular and varied between 108 and 120 to the minute; but shortly afterwards it fell to 20 and then to 18. It was then somewhat irregular, and the intervals between successive beats were not infrequently fully seven seconds. I counted by simultaneously keeping my finger on the radial pulse and listening to the heart through the stethoscope. During the long intervals of absence of pulsation I did not hear, see, or feel any abortive beats of the heart. The pulse was weak and soft. Occasionally a very slight systolic murmur could be heard at the apex. I did not myself detect any evidence of brain, lung, or kidney disease. There was still slight œdema about the ankles. The temperature had for the most part been subnormal. The pulse continued slow; the epileptiform attacks increased in frequency and during the greater part of the night occurred nearly every ten minutes. At about 5 A.M. on the 21st the fits ceased, mucous râles developed, and she died quietly at 8.30 A.M. She was treated mainly with stimulants and a mixture containing ammonia, tartrate of iron, nux vomica, and belladonna. In this case, as in my first, the variations in the pulse-rate were considerable; but Dr. Ferrier was quite satisfied that the epileptic seizures occurred at times when the pulse was acting very slowly. The actual length of the pause prior to the coming on of a fit was unfortunately not determined, and it is curious that, although I was with the patient for a considerable time, no fit occurred during this period; and yet the duration of the pause was several times proved to be exactly seven seconds, a pause which, if recurring regularly, would make the rate of the pulse per minute as nearly as possible eight and a half.

My last case is one which I had not the privilege of seeing or examining during life; but on Feb. 8th of this year I went down to the hospital about the time at which post-mortem examinations are made, and was told by the resident assistant physician that a case was about to be examined which might be of some interest to me. The following is a brief history of the case, for which I am mainly indebted to the clinical clerk, Mr. W. Watkins Pitchford, who had taken from the beginning a very intelligent interest in the case. The patient was a man forty-nine years of age, who was admitted into St. Thomas's Hospital on Jan. 7th, 1893. He appeared to have been a healthy man down to about two years previously, when, for a period of six weeks, he suffered from fits. He recovered from these, and remained well until six months ago, when the fits recurred and troubled him ever afterwards. He stated that the fits began with giddiness, that he became unconscious, and, if standing, fell; that they lasted for a few seconds each; and that on becoming conscious he felt perfectly well. He added that the fits sometimes recurred every three or four minutes for hours together. He was a spare but healthy-looking man. There was no cardiac dulness. The sounds at the base were faint but healthy. At the apex the first sound had a blowing character, and the murmur was conducted into the axilla. The radial arteries appeared to be thick and rigid, but straight; the brachials were tortuous. The pulse on admission was regular, but varied between twenty-five and thirty to the minute. There were some signs of emphysema in the lungs. The liver dulness extended nearly to the umbilicus, but the edge of the organ could not be felt. The urine was of sp. gr. 1012, acid, and contained no albumen. Arcus senilis was present; the pupils were equal and natural; the reflexes were normal. On Jan. 9th it was noted that he had had four fits since admission. The pulse about the time of the fits was 22, but after one of them it rose to 40. From this time to the 31st he seemed to improve and expressed himself as feeling fairly well. On that day, at the time the pulse was being felt (and it was acting regularly and at the rate of 72 to the minute), it suddenly stopped for five seconds, at the

end of which time he became livid and unconscious and slightly convulsed. He then recovered with a cry, and the pulse went on at a quickened rate. At this time a trace of albumen was found in the urine. After this the fits became more numerous—at first two or three a day, but in the course of a few days almost incessant, at intervals of three or four minutes only. It is stated, however, that they never occurred during sleep; but the terror into which their repeated occurrence threw him interfered much with his sleep. Although in one of the attacks above recorded a fit came on whilst the pulse was beating, generally at the rate of 72 to the minute, it was observed almost without exception that, as a rule, when fits were occurring frequently, the pulse lay between 25 and 24, but that a pulse rate of 20 per minute was often maintained for hours without the supervention of fits. The fits resembled one another almost accurately; the pulse at the wrist would stop, then the patient would become insensible and his face deadly pale, and his eyelids would close, while the latter and the fingers and hands would tremble slightly; then after a period of about three seconds his face would flush deeply, the pulse would be re-established at its former rate, his eyes would open, and he would utter a deep sigh and almost always express the greatest terror at what had occurred. The temperature of the patient during his residence in the hospital was always either subnormal or normal. The patient was kept in bed and treated at various times with strychnine and large doses of ammonia and ether, but without effect. Bromide of potassium in large doses benefited him by giving sleep, as also, according to the patient's feelings, did hypodermic injections of chloral and opium. He died in a fit on Feb. 7th. At the necropsy the body was found to be well-nourished. There was no œdema of the extremities. The left pleura held half a pint of clear fluid; in the right there were old adhesions over the upper lobe. The lungs were emphysematous; there was œdema of the lower lobes; a calcified nodule was embedded in fibroid tissue at the right apex. The pericardium was healthy. The heart weighed 15¼ ozs., presenting considerable hypertrophy of the left ventricle, its cavity being apparently unaltered. There was probably also some hypertrophy of the left auricle, of which the endocardium was white and opaque. The right side of the heart was normal. The muscular tissue was healthy. All the valves were competent, but there was a little atheroma of the aortic flaps, and one atheromatous spot on a mitral flap. There was a little atheroma, with some calcification, in the first inch of the aorta, with a ring round the mouth of each coronary artery. The first inch of the left coronary artery showed a little atheroma, but the rest of this and the whole of the right were healthy. There were only a few spots of early atheroma in the course of the thoracic and abdominal aorta. The radial arteries were atheromatous and calcareous. There was no external sign of gout, but a little deposit of urate of soda was found in both big toe joints. The kidneys were large (13¾ oz.), deep-red, and unduly firm, and the arterioles were a little thickened; but there was no clear evidence of the presence of any serious disease. The liver showed no signs of disease and was free from any trace of the nutmeg character. The spleen was large and firm; the peritoneum and all other abdominal viscera were healthy. There was considerable œdema over the vertex of the brain, but there was no other intra-cranial change beyond atheroma at the origins of both middle cerebrals and in both vertebrals. It may be added that the amount of disease in the arterial system was very slight, excepting in the case of the radial arteries.

I do not intend to comment at any length upon the above cases. It will be admitted that they are rare, for very few, so far as I know, have been recorded; and although I had been on the look-out for such cases ever since I met with my first, now more than twenty-four years ago, I never met with another until November, 1891, and my last would probably have been overlooked as a case in point but for the accidental circumstance that I attended the post-mortem examination, and, guided by the notes of the case, was enabled by questioning those who had had charge of it to satisfy myself of the accuracy of certain important statements and to elicit some additional facts.

That the fits in all such cases are epileptiform in character is the opinion of all medical men who have witnessed them; at the same time there is little, if anything, to distinguish them from momentary and sudden faints, in which, also, the patient becomes pale and momentarily insensible and slightly convulsed, and, if standing at the moment of attack, falls as if shot. These latter considerations have led me to wonder if pauses in the action of the heart sufficiently long to cause fainting or epileptiform attacks may not be of much more frequent occurrence than many of us, at any rate, have been led to suppose; whether, in fact, if we were to happen to feel the pulse (or, better, to listen to the heart) immediately before the occurrence of a faint, we might not often find that the faint was preceded by such a pause as has been above described. But such an opportunity can only very rarely present itself.

It is impossible to say what is the longest pause a patient can endure without the occurrence of an epileptiform attack. From the first case that came under my observation I was disposed to think it was five seconds, a view to some extent confirmed by my third case. But in my second case I observed pauses of seven seconds' duration without the supervention of a fit.

It is interesting that in all the recorded cases the pulse had a general tendency to be very slow—often beating, when there was no fit, at the rate of from 20 to 30 to the minute. At the same time it is important to note that in some cases the pulse would rise to 70 or even 120 to the minute after an attack, or would be generally fairly rapid.

I will conclude this address with a quotation of the last paragraph of my letter to THE LANCET,[3] which has reference to another subject, but one which the earlier part of my letter brought to my memory:—

"It may be interesting in relation to the above case"—namely, the first of my own cases—"to record another in which similar epileptiform fits were the consequence of the opposite condition of temporary cerebral congestion. About ten years ago I was consulted by a gentleman sixty years of age, who was very fat and had been liable to bronchitis for many years. For several weeks, or longer, he had been suffering from severe, prolonged, paroxysmal attacks of cough, with whooping inspiration, in the course of which he frequently became insensible and slightly convulsed for a few seconds. In my consulting-room one of these paroxysms of cough came on. It was much like an attack of whooping-cough, and after it had lasted for some time (half a minute or a minute) respiration suddenly ceased; he became increasingly livid in the face, his head fell upon his chest, and he was insensible and slightly convulsed for a few seconds. He then came to and appeared in his usual condition. Whether he was really suffering from whooping-cough or not I do not know. I could not determine that point at the time, but I know that these phenomena continued unchanged for some considerable time after his visit to me, and that even during the next five or six years he still occasionally whooped and still occasionally lost consciousness during severe attacks. I saw him again about six years later, when he was suffering from the effects of advanced bronchitis, and about a month before his death from this disease. Attacks like the above are not uncommon, and occasionally cause death in children suffering from whooping-cough; but, so far as I know, they are rare in adults."

An Address

DELIVERED AT THE OPENING OF

THE SECTION OF PATHOLOGY,

At the Annual Meeting of the British Medical Association at Bristol, August, 1894,

BY G. SIMS WOODHEAD, M.D., F.R.S. EDIN.,

DIRECTOR OF THE RESEARCH LABORATORY OF THE CONJOINT BOARD OF THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, LONDON.

SOME PATHOLOGICAL PROBLEMS OF THE DAY.

GENTLEMEN,—It is my pleasant duty, as President of the Section of Pathology, to welcome not only those workers whom, as members of the Association, we may call our own, but also those distinguished in science from abroad, and from our own country, who have consented to place the results of their labours and the benefit of their experience before the profession, as represented by our Association in this country.

[3] THE LANCET, March 7th, 1885.

Arising from, or as an outcome of, a feeling of brotherhood, a community of interest in a scientific commonwealth, our honoured friend and teacher, Professor Chauveau, whose contributions to all branches of scientific medicine have made for him a name which not only we, but men of all civilised nations and tongues, are delighted to honour, had promised to be amongst us, but he has been unable to come. This feeling has, however, brought amongst us our esteemed colleague Dr. Voigt, who, at considerable trouble to himself, has come to lay before us most interesting matter connected with the subject of this day's discussion. I am sure, gentlemen, that you join with me in extending to Dr. Voigt, and to those others who, though not members of the Association, have at our request come forward to take part in the discussion of a much-vexed question, a most hearty welcome.

It is now my privilege to open the proceedings of this Section with a few remarks—and they shall be few, as we wish to get to the real work of the Section—concerning some of the pathological problems that are occupying the attention of those most actively engaged in widening the boundaries and strengthening the stakes of this great domain of scientific medicine. A few years ago such terms as "phagocytosis" and "chemotaxis" were looked upon with distrust as new-fangled terms which represented in the minds even of those who first used them but nebulous or half-formed ideas; but now they are in such wide use, and have been discussed so generally and so freely, that everyone who takes the slightest interest in pathology may be said to have grasped, in some degree at least, the meaning of these terms, both in their extension and in their intension, as they were originally used. But as each advance is made and as we obtain a clearer view and gain additional knowledge of the properties of living cells we are constantly confronted by the fact that we have still much to learn of the part that these vitally active cells play in physiological, and still more, for our purposes, in pathological processes. The leucocyte, which has for long loomed so largely in the eye of the pathologist overshadowed for a time what at an earlier period had already been sketched in outline—the very active share that so-called fixed cells, as represented in the endothelial cells of the connective tissue, of the walls of capillaries, and of similar structures, play in normal and in pathological conditions. At one time it was the leucocytes which in inflammatory processes became "sticky" or "tacky," thus increasing the friction of the blood flow by its adhesion to the vessel wall. Now, however, the cells of the vessel wall are gradually assuming a greater and greater importance in connexion with this process, and the leucocyte is coming to be looked upon more as a coadjutor or an assistant in the process. At one time arterial and venous tension were supposed to play an all-important part in the throwing out of lymph from the bloodvessels into the lymph spaces, and the capillary walls were looked upon as forming merely a kind of membrane through which fluid might pass in or out by a process of filtration, osmosis, or diffusion. Then, as the outcome of Heidenhain's careful and brilliant researches, corroborated in some points, corrected in others, and greatly extended by numerous workers both in this country and abroad, it appeared to be almost demonstrated that the cells of the capillary walls may act as true secreting cells—a theory held as long ago as in Goodsir's time—and that when they are stimulated under certain conditions there is an increased outward flow of fluid lymph from the blood into the surrounding spaces; whilst if their vitality be somewhat lowered by cutting off their blood-supply for a time and then stimulating them their power of secretion is interfered with in a degree corresponding to the extent to which their vitality is lowered, this resulting in a proportionate diminution in the amount of lymph secreted. Here, however, the matter is not allowed to rest. Starling and Bayliss, working over much of the same ground, have obtained evidence of a most positive nature that, after all, blood pressure plays a considerable if not an all-important part in determining the rate of passage of lymph from the vessels into the lymph spaces. They find, however, that they are still unable to eliminate what may be spoken of as the vital action of the cells of which capillary walls are made up, which indeed undoubtedly appears to play a not unimportant part in the process of lymph transudation. In considering this question, however, it may be well to glance cursorily at the action of two sets of substances which, as experimentally proved, act as lymphagogues, for it appears that some of the confusion that has arisen may be set straight by a careful analysis of the process as brought about by these two sets of substances.

It has long been known that when certain crystalloid bodies, such as sugar, sodium chloride, and sulphate, &c., are injected into the circulation they are rapidly excreted (1) directly by the kidneys, and (2) into the lymph channels; and this goes on until a kind of equilibrium is set up. Sugar thrown into the blood always gets out of it as quickly as possible, but it not only gets out itself, but, especially when the amount of fluid in the blood is increased, it takes out along with or draws after itself a considerable quantity of fluid. More than this, however, if it cannot attract a sufficient quantity of fluid from the blood, it draws freely on the fluid in the tissues until it is diluted down to a certain strength. In this way any excess of these crystalloid substances is gradually got rid of, especially by the tissues of the kidney, by a process of osmosis and filtration. The endothelial cells of the capillaries are no doubt somewhat affected in the process, but the whole of the changes are much more chemico-physical in their nature than is acknowledged by Heidenhain and his pupils. It is more nearly in line with what is held to take place in the elimination of sugar by the kidney than with any other process with which we are acquainted. Heidenhain, Wright, Starling, Bruce, and others have, however, used other substances as lymphagogues—substances nearly allied to albumoses and peptones—and in many experiments these substances, pure or in mixtures, have been injected into the circulation with most startling results. Taking the clinical fact that the consumption of crayfish, mussels, &c. is so frequently followed by the appearance of œdematous weals, Heidenhain assumed that these organisms must contain, locked up in their substance, materials which affect the walls of the capillary vessels in such a fashion that they allow of or promote the transudation of lymph, and from the nature of the substances separated (albumoses and peptones) he came to the conclusion that they exert such a stimulating effect on the capillary walls, and also probably on the endothelial cells lining the lymph channels and spaces, that a true secreting process is accelerated and a larger quantity of lymph is thrown out, this taking place at the expense of the fluid of the blood plasma. In this case, however, the specific gravity of the plasma remains stationary, or it may even become less than normal; at the same time, however, that there is an increase in the amount of fluid lymph its specific gravity becomes increased—all this pointing to a process of true secretion, especially as much of the stimulating substance passes from the blood into the lymph. The idea once conceived that stimulation of the endothelial cells of the walls of the capillaries or capillary venules determines an increase in the passage of fluid from the blood into the lymph spaces, the pathologist is naturally led along two parallel lines of research: first, that concerned with the effect of mechanical or physico-chemical irritation, which can to a certain extent in experimental work be controlled; and, second, that dealing with the irritation set up by the introduction either naturally (in disease) or artificially (experimentally) of bacteria or their products, or of extracts of animal substances such as those already mentioned. Heidenhain's experiments and his selection of the lymphatics of the abdomen as those with which the best results could be obtained have opened up a field of pathological research, one of the first gleanings from which was presented by Professor Roy and Mr. Cobbett at the meeting at Newcastle last year, where the effects of simple operations on the intestines were studied in connexion with their relation to the specific gravity of the blood, but which appear to have a far more wide-reaching importance as regards the pathology of shock; whilst Dr. Starling's interesting experiments have opened up still further new ground, especially as regards the transudation of lymph from the capillaries of the liver, in which it was found that not only was the amount of lymph passing from the blood greater than in the limbs, say, but that this fluid contained a much greater proportion of solids, from 6 to 8 per cent. as compared with from 2 to 4 per cent. in the lymph coming from the limbs and from 4 to 6 per cent. from the lymphatics of the intestines.

It is evident then that a relatively large quantity of solid matter must pass from the liver capillaries, this being due apparently to the fact that the endothelial walls of these vessels are of extreme delicacy and activity. A similar remark applies to the cerebro-spinal system of capillaries and lymphatics. It has for long been known that whenever there is a greatly increased flow of lymph from vessels there also is a wandering out of leucocytes, or, at least, an accumulation of leucocytes near the walls of the vessels from which the fluid is flowing outwards. Going a step further, and in

a somewhat different direction, let us turn to a number of experiments which have been carried out, especially in the laboratory of the Pasteur Institute or by old pupils of that institution—Werigo, Wyssokowitsch, and others—by which it has been proved that when particles of carmine held in suspension, or the dead or even the living bodies of anthrax bacilli, are injected directly into the blood stream there is a rapid hypoleucocytosis or disappearance of leucocytes from the general circulation, followed after a time by a great increase in the number of leucocytes—hyperleucocytosis. Where are these leucocytes to be found? On examining the liver it is found that some at least have made their way to and have become lodged in this organ. They crowd the portal capillaries, in some cases forming small thrombi; in them particles of carmine, or the bodies of bacteria, as the case may be, are constantly present. Beyond this, however, it is seen that these leucocytes are in close contact with the endothelial cells of the capillaries, adherent to their processes or sticking to their surface; whilst within these endothelial cells similar particles or bacilli, though fewer in number than in the leucocytes, are also to be seen. The endothelial cells are apparently in a stimulated or excited condition, their bodies are swollen, the nuclei are distinct, the processes are prominent, and there is evidently a great attraction between the endothelial cells and the particle-bearing leucocytes, some of which appear to be taken into, or to make their way into, the endothelial cells, whilst others are found outside the capillary wall altogether. Whatever else happens, there is certainly an increase of friction, and probably also increased pressure behind this area of increased friction; but, in addition to this, we have the activity of the endothelial cells increased, and therefore, if there is anything in Heidenhain's theory, all the most important factors necessary for increased lymph flow and the passage outwards of leucocytes are present. The injection of albumoses and peptones into the blood gives rise, as we have seen, to an outflow of lymph, especially from the liver capillaries; accompanying this, as pointed out by Wright and Bruce amongst many observers, there is, just as in the case of the injection of carmine or bacteria, a great diminution in the number of leucocytes in the larger vessels of the systemic circulation; so marked is this, indeed, that it has led some observers to suppose that when peptone is injected into the blood the leucocytes are broken down in enormous numbers, and so practically disappear. Recently this theory has received some sort of check by the observations of Bruce in this country and of several observers abroad, who have found that coincidentally with this disappearance of the leucocytes from the larger vessels they were found in greatly increased numbers in such organs as the liver, spleen, and lungs, being not only crowded together along the walls of the capillaries, but also in the lymph spaces surrounding them, where they seem to have followed the peptone-holding lymph. This condition is invariably associated with an altered condition of the endothelial cells of the minute vascular channels. Here, then, we have a substance in perfect solution and containing no discrete particles, which sets up changes in the liver similar to those resulting from the presence in the blood of particles of carmine and bacteria, causing an accumulation of leucocytes at those points where there are marked changes in the endothelial cells, changes which evidently are the result of stimulation.

The importance of these observations on the doctrine of phagocytosis is at once manifest, and their bearing on chemotaxis is equally obvious but it is not with these processes in view that I now bring them forward. My object is to try to indicate the bearing of these experimental facts on clinical observations and to bring into line a few clearly defined pathological data. The products of certain micro-organisms have the power of acting directly on the endothelial walls of capillary bloodvessels. Taking the case of malignant œdema, for example, it is a well-ascertained fact that accompanying the emphysema of the subcutaneous tissues following the introduction of a virulent culture of the bacillus of malignant œdema there is a marked increase in the quantity of fluid at and around the seat of inoculation. There can be no doubt that in this case there is a direct action of the products of the bacillus on the walls of the vessel, as in addition to the œdema there are evident traces of a more serious vascular disturbance in the petechial hæmorrhages that are so frequently associated with this condition. We have further proof of this in the fact that there may be separated from the filtered products of a culture of the bacillus of malignant œdema a toxic material which, when injected intra-peritoneally, causes death extremely rapidly and makes manifest its action on the vessels by inducing small petechial hæmorrhages. The same thing may also be observed in connexion with the injection of the toxic products of certain other bacteria. It is evident, then, that the symptoms of "congestion of the liver," taking this as a type for our present purposes and leaving the spleen and other organs out of consideration, assume an importance in cases of organic poisoning which hitherto has only been appreciated by those who are engaged in practice, but which has even by them been only imperfectly understood. The capillaries of the lungs and brain and the blood channels in the spleen are, no doubt, affected very similarly, but the observations made on them are naturally not so complete as are those made on the liver—an organ that lends itself so readily to macroscopic and microscopic examination; but once let it be borne in mind what an important part this increased vital activity, with the accompanying changes in the relation of the wall of the vessel to the fluid and cellular elements of the blood, plays in those cases in which bacterial products, albumoses, peptones, not to speak of distinct organised and non-organised particles, are present in the circulation, and the changes in the circulation through the capillaries of organs will assume an importance to the clinical observer greatly surpassing that which it even now holds. Take pneumonia as an example of a disease which may be set up by obstruction of the capillaries brought about in such a fashion, or think of the obstruction that may be set up in the cerebro-spinal capillaries, not to mention the more marked lesions that may occur in the nerve centres as the result of prolonged vascular irritation and hyperactivity and such conditions as shock, and acute localised or generalised inflammatory changes followed by more chronic processes, assume a new significance.

One word, and I have done. The extract of crayfish, which sets up changes in vessels far less delicate than any of those found in the liver—the capillaries of the skin—probably exerts a still more marked influence on the delicate capillaries of the liver and other organs. The relation of these products to the various degenerative charges of other protoplasmic structures is one that at present does not allow of much discussion, as the data at command are too meagre to be of much use; but this much at least may be assumed as the result of work already carried out, that in addition to the direct action of the poisonous material on the protoplasm of the liver cells, say, there is an alteration in the relations of the vascular and lymph supply due in great measure to the changes that take place in the wall of the capillary vessel, which must materially help to disturb the trophic equilibrium of the liver cells. Gentlemen, the important questions bearing on immunity, the relation of the lower forms of organic life to variola, variola vaccine, and many questions of interest and importance are to be discussed during this meeting; the time at our disposal is limited, and I have already occupied too much of it; so, commending to your more careful study the work that has brought these scattered thoughts to my mind, I beg to open the work of our Section.

THE SERUM THERAPEUTICS OF DIPHTHERIA.[1]

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SERUM THERAPEUTICS is the question of the day in medicine, since Behring and Kitasato have taught the properties of the serum of animals rendered immune against tetanus and diphtheria. How is it possible to avoid devoting all our attention to those "antitoxines" which appear to be scientific remedies for two of the most serious diseases so feebly combated by empirical means until now? The antitoxine of tetanus has been first studied because it is easier to obtain and exhibits its preventive action with marvellous force. In practice it has not justified our expectations, and everyone now agrees, we believe, that, if always useful in tetanus, it is not a reliable remedy. This is due, no doubt, to the fact that we only recognise tetanus

[1] A communication to the Eighth International Congress of Hygiene and Demography, Budapest, September, 1894.

upon the appearance of the muscular contractions—that is to say, after the poisoning has taken place. When the treatment is begun the disease has already entered its last phase, therefore it is not astonishing that the antitoxine is so frequently inefficacious. This is not so in diphtheria; the disease is also toxic, but the poisoning follows angina or laryngitis, and we are warned by the presence of false membranes in the throat and larynx before the poison does its work. If instead of attacking parts readily accessible to examination, and giving rise from the commencement to symptoms difficult to misconstrue, the false membranes develop, for instance, in the stomach or in the intestines the disease declares itself by the following signs of diphtheritic poisoning: paleness of the face, albuminuria, and respiratory and cardiac troubles. It would be too late then to intervene, and the antitoxine of diphtheria would be found to be a remedy no more certain than that of tetanus. The fact that diphtheria is firstly a localised affection, developing under our observation, should enable us to arm ourselves more effectually against the disease. In a series of publications, probably known to all, Behring, either alone or with the help of Vernicke, Boer, Kossel, and Knorr, explained their method of rendering animals immune, how their serum acts upon the toxine and displays its preventive and therapeutic action upon guinea-pigs and rabbits poisoned by diphtheritic virus or infected with the living bacillus. Subsequently, Behring and Ehrlich, with Boer, Kossel, and Wassermann, gave forth the first results of serum therapeutics applied to children affected with diphtheria. Since 1891, with the collaboration of L. Martin and A. Chaillou, we have followed up the experiments of the treatment of diphtheria by antitoxine serum, firstly upon animals, and subsequently upon children. Before publishing anything we have been desirous of accumulating the results in sufficient number to permit of judging the method. To-day we can announce that our results confirm essentially those of Behring and his collaborators in the treatment by antitoxine both of animals and of children affected by diphtheria. The animals furnishing the antitoxic serum are rendered immune against diphtheria—that is to say, they are rendered accustomed to the toxine of diphtheria. The preparation of the antitoxine forms the basis of the treatment, and it is the more necessary to describe it because it requires a large quantity to immunise large animals and to maintain their serum at a sufficient degree of activity. The most rapid process for obtaining the toxine consists in making the culture in a current of moist air. Vessels with flat bottoms and with lateral tubes are used; into these is poured an alkaline bouillon peptonised to 2 per cent., the liquid being spread in a thin layer. After sterilisation recent and very virulent diphtheria bacilli are added, and the temperature of the chamber is raised to 37° C. When the development has fully commenced, in a manner easily imagined, the current of air that passes into the neck of each of the phials is regulated, after bubbling through a wash bottle. After three weeks, or at the most a month, the culture is sufficiently strong for use. The completed cultures are filtered through a Chamberland bougie, and the clear liquid is kept in well-filled vessels, corked and sheltered from light, at the ordinary temperature. Prepared in that manner, a dose of one-tenth of a cubic centimetre of the toxine generally kills a guinea-pig of 500 grammes in from forty-eight to sixty hours. It finally loses its activity, but only slowly if properly kept under the conditions mentioned.

In order to undertake the treatment of children affected with diphtheria large quantities of serum must be available; therefore it is desirable to immunise large animals capable of furnishing abundance of antitoxine. In conjunction with M. Nocard, we undertook to immunise horses against diphtheria, because the serum of the horse, even in considerable doses, is not injurious to animals or to man. In addition, it is easy to draw from the jugular vein of the horse, as often as desirable and in purity, large quantities of blood from which a perfectly limpid serum separates out. Of all animals capable of furnishing large quantities of anti-diphtheritic serum the horse is the easiest animal to immunise. He tolerates the toxine much better than goats, sheep, or cows. It is not unusual to meet with horses that will bear five cubic centimetres of strong toxine, injected at one insertion under the skin and producing only a fleeting rise of temperature and a local œdema rapidly disappearing. If it be admitted, according to Behring, that an animal supplies a serum of greater antitoxic power in proportion to its greater sensibility to the toxine, the horse might appear to be a bad subject. Nevertheless, since 1892 we have immunised several horses producing very efficacious serum. Some have been brought to such a degree of immunity in less than three months that they have borne without suffering 300 cubic centimetres of diphtheritic toxine injected into the veins at one time. The immunisation of horses is, therefore, very simple. The pure toxine is injected under the skin, commencing with 1 c.c. and progressively increasing the quantity. At the end of a month, two or three times a week from 20 c.c. to 30 c.c. are injected at each sitting. The result is better if small and repeated doses are injected than if large doses are given at long intervals. It appears as if the cells must be frequently excited to secrete the antitoxine continuously. Horses also bear very well inoculations of living and very virulent diphtheritic bacilli. These cause a local swelling, soft at the periphery, hard in the centre, which soon diminishes, leaving only an indurated core taking a long time to disperse. At the same time the temperature rises during one or two days without any change in the health of the animal. These inoculations after being repeated a great number of times always give rise to the same symptoms until a period is reached at which the fever following the inoculations is insignificant and the much-reduced local lesion terminates in suppuration. Then large doses of virulent culture introduced into the veins only provoke a fleeting rise of temperature. A horse that has thus received during two years almost a litre of diphtheritic culture has furnished a much less active serum than other horses to which the diphtheritic toxine has been frequently administered subcutaneously. In order to immunise animals very sensitive to the diphtheritic poison, such as guinea-pigs, rabbits, sheep, and especially goats and cows, which yield milk containing antitoxine that may be concentrated in small volume, we have recourse to toxine with the addition of iodine, beginning with small doses and increasing them cautiously. We only inject pure toxine after having verified the fact that the blood displays a certain antitoxic power. It is unnecessary to repeat here the properties of anti-diphtheritic serum described by Behring. We all know under what conditions this serum is preventive and therapeutical in action. We need only state that the horse serum, which we have used in the treatment of children, has a preventive power approaching 100,000, and that mixed with forty volumes of toxine it neutralises it to such a point that a cubic centimetre of the mixture injected beneath the skin of the guinea-pig causes no œdema.

Before treating children with this serum we have tested its efficacity upon animals inoculated with diphtheria upon the mucous membrane in order to approach as near as possible to actual conditions. Female guinea-pigs readily lend themselves to this class of experiments, as in them it is easy to produce diphtheria of the vulva and vagina, and to observe what takes place after the injection of the serum. If this is injected twelve or even twenty-four hours after the development of the false membrane the disease is arrested and the animals recover, whereas guinea-pigs not so treated die in from four to six days. Even a few hours after the injection of the therapeutic serum the redness and swelling of the tissues diminish, the false membranes detach themselves, and the mucous membrane recovers with rapidity. The serum not only prevents general poisoning, but its action upon the local lesion is also most marked. Experiments made upon rabbits inoculated in the trachea are most interesting, because diphtheria thus excited resembles exactly the diphtheria of children. Rabbits to which tracheal diphtheria has been communicated die in from three to five days if untreated. Those receiving serum in sufficient quantity, even twelve and twenty-four hours after the injection, recover. It is much more difficult to cure rabbits inoculated in the trachea with a mixture of diphtheritic bacilli and of streptococci. Diphtheria associated with streptococci is the most grave form met with; in children it is the most frequent determining factor of broncho-pneumonia, and the same holds good among rabbits. Is the anti-diphtheritic serum capable of staying those forms of diphtheria with complications? Yes, if treated within the first twelve hours, and if strong doses of serum are given repeatedly at intervals. Our rabbits treated after twelve hours have succumbed, in the great majority of cases, with centres of broncho-pneumonia, in which were found microscopically the Klebs-Löffler bacillus associated with the streptococcus. If the serum fails in these cases it is not because its action upon the diphtheritic toxine is hindered—it is because it does not stimulate with sufficient energy those

cells already pervaded by the products of the streptococci. These experiments upon animals were the natural and indispensable preparation for the treatment of diphtheria in children.

Upon Feb. 1st, 1894, we commenced to treat diphtheria cases at l'Hôpital des Enfants Malades. The chiefs of the staff, MM. Jules Simon, Descroizilles, and Grancher, were desirous of giving every facility to our undertaking. We desire here to record our gratitude. We had several horses well immunised; we could, therefore, use serum in large quantities without fear of running short. During preceding years MM. Roux and Yersin, MM. Martin and Chaillou, had studied diphtheria in the same wards. We were, therefore, familiar with the type of disease presenting itself at the hospital, and consequently were well prepared to instantly appreciate the modifications that the new treatment was about to import in its usual course. Every day we visited the wards and treated all the children in whatever stage we found them. No selection was made, so that the gross results during the months of treatment may be set side by side with those previously recorded; they are comparable. Nothing was changed in the nursing of the patients; the local treatment remained the same (glycerine and salicylic acid, boracic acid washes). The only new element introduced was the serum; it is, therefore, to this alone that the changes that occurred must be attributed. The statistics of diphtheria are recorded with great care by the director, on the one hand, and by the lady superintendent, on the other, and they supply all the facts for comparison. Lastly, our experiments were made from Feb. 1st to July 24th, during the winter months, when diphtheria is common and severe, and during the summer months, when it is notably less frequent. Besides this there is in Paris another children's hospital receiving diphtheria cases, l'Hôpital Trousseau; serum was not used there, and it will serve us for purposes of comparison. The total mortality of children admitted to the diphtheria wards during the last four years gives a mean of 51·71 per cent. From Feb. 1st to July 24th, 1894, the serum treatment was applied to 448 patients admitted to the hospital, and there were 109 deaths, a mortality of 24·5 per cent. All conditions remaining the same, the difference between 51·71 per cent. and 24·5 per cent. is the measure of the benefit conferred by the treatment. During the same months of February, March, April, May, and June, 1894, 520 children were admitted into the Trousseau Hospital who did not receive any serum treatment; of these, 316 died, a mortality of 60 per cent. It cannot be said that the epidemic during which we experimented was a benign epidemic; but it is desirable to distinguish between angina and croup requiring tracheotomy.

Angina.—During the last four years the mean mortality of angina has been at l'Hôpital des Enfants Malades 33·94 per cent. During the time of treatment from February to July 1894, the mortality has been 12 per cent. During the same time at l'Hôpital Trousseau it was, without the use of serum, 32 per cent.

Croup operated upon.—The mean mortality of the last four years at l'Hôpital des Enfants Malades was 73·19 per cent. During the months of treatment from February to July it was 49 per cent. During the same time at l'Hôpital Trousseau it was, without the use of serum, 86 per cent. The above figures are absolutely comparable; they are gross numbers that are eloquent and proclaim the good effect of anti-diphtheritic serum.

As thus stated these figures do not take into account the fact that children that are not diphtheritic are admitted into the diphtheria ward block. They may have angina with false membrane, sometimes even croup, but without the Klebs-Löffler bacillus. The affections caused by other bacteria are much less dangerous than true diphtheria—their mortality is slight; in this same ward block of l'Hôpital des Enfants Malades MM. Martin and Chaillou have observed 79 such cases, with only one death, and M. Tezenas, at Lyons, has described 146 such cases, with three deaths. These false diphtherias are not uncommon; one-fourth at least of the children admitted to the wards are not suffering from diphtheria. It is, therefore, desirable to deduct these cases, as they attribute to serum a proportion of success not due to it. In exact statistics only angina and laryngitis recognised as due to diphtheria by bacteriological examination should be admitted into calculation. Accordingly, from the 448 children treated we must deduct 128 that did not have diphtheria; there remain 320, of which 20 succumbed upon admission into hospital; they received no serum and cannot be reckoned amongst those treated. In fact, from Feb. 1st to July 24th, 1894, only 300 diphtheritic children entered the wards, and it is upon these that the action of the serum must be ascertained to be appreciated. These 300 diphtheritic children treated by serum yielded 78 deaths, a mortality of 26 per cent. The earlier work of MM. Roux and Yersin, and MM. Martin and Chaillou established the fact that in the same hospital, the mortality of children attacked by diphtheria, and confirmed by bacteriological examination, was 50 per cent. By the comparison of these corrected figures, which only include authenticated cases of diphtheria, it is possible to appreciate how many lives the serum has saved. To all children we systematically administered, at the time of admission, 20 c.c. of serum at one insertion under the skin of the side of the abdomen. If the bacteriological examination showed that the patient was not diphtheritic the injection was not repeated; 128 children affected with various forms of angina were thus treated without the least inconvenience. It even appeared that the angina was relieved in a number of cases. They remained some days exposed to contagion without being infected, a proof of the prophylactic value of the serum. If the injection is properly made into the subcutaneous cellular tissue it is not painful and in a few minutes the serum is absorbed. In diphtheritic children twenty-four hours after the first injection we gave another of 20 c.c. or 10 c.c., which was generally sufficient to complete the cure. The pulse and temperature guided us—if they remained high we repeated the injection; so long as the temperature does not fall below 38° C. the curative effect is not complete, it must be hastened by a supplementary injection. The mean weight of the children treated was 14 kilos; from the first injection they received a little more than a thousandth part of their weight of serum. The minimum quantity of serum used was 20 c.c. and the maximum was 125 c.c. During convalescence, some days after the injection of the serum, ill-defined eruptions sometimes supervened, most frequently resembling urticaria. These eruptions, unaccompanied by any fever, were due to the serum. Besides these, other eruptions were observed, causing a febrile condition; they were noticed specially in diphtheria cases with complications, and they appeared to be classible with the infectious erythemas frequently occurring after angina. The principal modifications produced by the serum upon the course of diphtheritic angina are the following. The general condition remains good or improves very quickly, provided the treatment be not commenced at too advanced a period of infection. The pale and leaden faces are scarcely seen in the wards; the expression of the children is more lively and more cheerful. The duration of the disease is curtailed, the appetite quickly recovers, and the wasting is slight. The complications following diphtheria are more rare; we have observed a few paralyses of the soft palate of short duration, one case of paralysis of a lower limb, and one case of total paralysis supervening during the convalescence of a child admitted struggling on the sixth day of the disease. Three children died from syncope—one in less than twenty-four hours, and another in less than twenty-six hours after admission, and the third succumbed five days after the commencement of the treatment. The false membrane ceases to grow within twenty-four hours of the first injection, and detaches itself in thirty-six or forty-eight hours, at the latest by the third day. The diphtheritic bacillus disappears from the throat at the same time as the false membrane. Most frequently cultivations cease to produce diphtheritic colonies from the third to the fifth day. The effect of the serum upon the local lesion is therefore most manifest. The temperature falls promptly under the action of the serum. In the less severe angina cases the fall often commences on the morrow after the first injection and is not delayed beyond the second day. The defervescence is abrupt, as if the disease had been suddenly checked. Before this treatment we had never observed these sudden falls of temperature, which constitute an excellent prognostic sign. A single injection of serum is not sufficient to bring down the temperature of patients affected with the grave form of angina; the defervescence only commences after the second or third dose, and takes place by lysis. The pulse only returns to normal two or three days after the temperature. In severe angina, after repeated injections of serum the number of pulsations diminishes, but only for a time; they increase to 120, and remain so during several days before falling to normal. Since the use of serum we no longer notice during convalescence those irregularities of the pulse that were formerly the rule. Albuminuria is less frequent and of shorter duration amongst diphtheritic patients treated with serum.

It is well known that angina in which the diphtheria

bacillus is associated with the streptococcus is of graver import than pure diphtheritic angina. In these complicated cases the serum is less efficacious; it only produces good results when injected in strong and repeated doses. In spite of energetic intervention the disease is of longer duration, and the temperature and pulse only return slowly to normal. No abrupt fall of temperature occurs here; the defervescence is always gradual. Broncho-pneumonia is a formidable complication, always threatening in these cases of associated diphtheritic angina. It is desirable, therefore, statistically to separate these cases from those of pure diphtheritic angina. Amongst our 300 diphtheritic children 169 had angina, and 120 were affected with pure diphtheritic angina; of these 9 died, or 7·5 per cent. If seven children who were less than twenty-four hours in the wards are deducted there remain 115 cases of pure angina, with 2 deaths, a mortality of 1·7 per cent. Forty-nine patients had angina associated with the streptococcus; they yielded 12 deaths, a mortality of 24·2 per cent. If four children who were less than twenty-four hours in the hospital are deducted there remain 45 cases of associated angina, with 8 deaths, a mortality of 17·7 per cent. All the deaths are met with in the group of diphtheritic angina associated with the streptococcus. These cases of angina numbered 35, with 12 deaths, and a mortality of 34·2 per cent. Deducting four children that were less than twenty-four hours in the hospital there remain 31 cases, with 8 deaths, a mortality of 25·8 per cent. This same class of diphtheritic angina with streptococci showed in the same hospital under the care of MM. Martin and Chaillou a mortality of 87 per cent. When diphtheria extends to the larynx and tracheotomy is necessary the disease is much more serious. It is then necessary to give more abundant and more numerous injections. In the great majority of children the trachea and larynx rapidly clear themselves of the false membrane and the cannula can be withdrawn much earlier. We withdraw it from the third or fourth day after the operation. The mortality of children treated is caused by pseudo-membranous bronchitis and above all by broncho-pneumonia, which is the most formidable of complications. It is common when the diphtheria bacillus is associated with staphylococci and streptococci. Then the disease takes a rapid course and the serum is of much less effect. As to this point, clinical observations agree perfectly with experimental results.

We have treated 121 children affected with diphtheria that have been subjected to tracheotomy; 56 died, a mortality of 46 per cent. During preceding years croup not treated with serum by MM. Martin and Chaillou yielded a mortality of 68 per cent. It is desirable to distinguish between pure croup and associated croup. The cases of pure diphtheritic croup numbered 49, with 15 deaths, a mortality of 30·9 per cent. Deducting four children that were less than twenty-four hours in the wards, there remain 45 cases, with 11 deaths, a mortality of 24·4 per cent. The cases of associated croup numbered 72; they yielded 41 deaths, a mortality of 58·3 per cent. Deducting 10 children that were less than twenty-four hours in the wards, there remain 62 cases of associated croup, causing 31 deaths, about 50 per cent. The mortality previously had reached 80 per cent. To these 121 cases of croup operated upon, 10 other cases must be added in which the operation was not performed. The children were admitted to the hospital without any false membranes in the throat. Nevertheless, cultivations upon serum yielded numerous colonies of the Klebs-Löffler bacillus; they, therefore, had diphtheritic croup from the onset. The cough was hoarse, the voice faint; the difficulty of respiration caused one to think that the little patients should undergo tracheotomy. Under the influence of the serum the obstructed inspiration diminished and only returned at intervals, the children threw up the false membrane, and at the end of two or three days the respiration was normal. We must not hasten to operate upon a child with obstructed inspiration: we must inject the serum and wait as long as possible. Since the use of serum the number of tracheotomies has much diminished at l'Hôpital des Enfants Malades. In 1891 and 1892, of 100 children affected with diphtheria 50, at least, were subjected to tracheotomy; whereas of 300 children treated with serum 121, about 40 per cent. only, were operated upon. How many children may be spared tracheotomy if the serum were administered sooner? We can even say that with the use of serum tracheotomy should, in the great majority of cases, be replaced by tubage. It is now no longer a question of leaving a tube in the larynx for days; it will suffice more frequently to retain it during twenty-four or forty-eight hours to prevent imminent asphyxia and to gain time until the false membranes detach themselves. Tubage is the complement of the serum treatment of the future, tracheotomy will be the exception, and greatly to the benefit of the children.

What is the local treatment to be recommended to assist the serum? We proscribe absolutely the use of all caustic and poisonous substances. We are content to use two or three times a day a wash of boracic water or, better, of water to which are added fifty grammes of "liqueur de Labarraque" per litre. No carbolic acid, no sublimate; we prefer boiled water to antiseptic liquids which cannot be swallowed without danger to children. There is quite sufficient diphtheritic poison in the body without adding others. The statistics that we have here published would have appeared more favourable if the provision for diphtheria at l'Hôpital des Enfants Malades had been better cared for. Isolation is impossible there, and one may judge of the conditions under which we worked when we tell you that amongst 300 diphtheritic patients 85 had concurrent diseases—33 measles, 13 scarlet fever, 6 tuberculosis, 3 whooping-cough, 3 varicella, and 39 broncho-pneumonia. The last affection is especially formidable amongst children that have undergone tracheotomy. It is contagious, and a patient affected with it infects others if he remains in the same ward. We have seen disastrous instances of this contagiousness. Since the month of April, in order to prevent in some measure this pulmonary infection we have injected into the trachea, after tracheotomy, 2 c.c. or 3 c.c. of oil of sweet almonds containing 5 grammes of menthol and a gramme of guaiacol per cent. These injections, repeated every day as long as the cannula remained *in situ*, certainly warded broncho-pneumonia off several of our patients operated upon and contributed to cure some that were affected. But menthol is only palliative; it is necessary in order to avoid broncho-pneumonia to isolate children suffering from it, as well as those affected with diphtheria associated with staphylococci and with streptococci. Simply by the arrangement of wards it is possible to avoid all those complications that invaded our patients without hindrance, and which, it must be admitted, did not facilitate the action of the serum. In spite of all, the anti-diphtheritic serum has lowered the mortality in hitherto unknown proportions, and we must pay homage to the discovery of M. Behring, who in the future will give us something even better.

ON THE

IMPROBABILITY OF A PARASITIC ORIGIN OF MALIGNANT DISEASE.[1]

BY RICHARD BARWELL, F.R.C.S. ENG.,
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THE obstinate refusal of malignancy to be transferred from a diseased to a healthy human being or animal, both clinically and experimentally, was acknowledged by Dr. Sims Woodhead in his Morton Lecture[2] to be an insuperable objection to the parasitic theory, were it not capable of an explanation which he offered. This explanation, however, appears to assume that in all, or nearly all, the experiments the cancerous juice or fragment has been conveyed to or implanted into connective tissue in which the parasite, whose food and habitat are *ex hypothesi* epithelial cells, cannot survive, or that the new connective tissue formed round the little colony of parasites is able to absorb them. But such have not in reality been the conditions under which by far the larger number of the attempts at transference have taken place.[3] The explanation seems thus to be very inadequate, the objection to the theory to remain insuperable; nevertheless, many still throw upon a parasite the onus of producing malignancy by causing a slight but continuous irritation of the cells lining serous cavities, glands, ducts, or other tubes. The particular class of being fixed upon is one that penetrates and lives within epithelial cells, even within nuclei, although in certain circumstances it is also intercellular. All the animals possessing the power

[1] Previous papers appeared July 28th and Aug. 25th, 1894.
[2] THE LANCET, May 7th, 1892.
[3] Among very many others I may refer to the fifty-four rats into whose abdominal cavities Duplay and Cazin conveyed minute portions of cancer, and to the experiments of D'Arcy Power.

of thus infesting belong to the class Sporozoa. Our knowledge of them is as yet imperfect, in spite of much industrious study carried on during the last ten or twelve years. For the present they are arranged in five subclasses—viz., gregarinæ, coccidia, sarcosporidia, myxosporidia, and microsporidia;[4] these are minute mouthless creatures gaining their nutriment by imbibition of the plasma of the host-cell. The muscles of cattle, sheep, deer, pigs, birds, fish, batrachiæ, &c., are very frequently crowded with these parasites and their spores, which are usually included in cysts.[5] As many as eighty have been counted in a fragment of muscle the size of a pea.[6] These cysts often burst from over-distension, the contents being thus set free to infect neighbouring muscular elements. They are by no means uncommon in butcher's meat. Dr. Lionel Beale, being requested by the Local Government Board to examine into the sanitary quality of such meat, reported these parasites to be harmless. Rabbits are very liable to coccidial affection of the liver; young rabbits—i.e., from ten days to a month old—have the liver enlarged and hardened; its ducts become choked partly by millions of parasites and spores, partly by the swollen cell lining, while enteritis and ulceration affect the intestine. These conditions frequently destroy life. Old rabbits are rarely infested by such hosts of coccidia as to succumb; on the contrary, with them a more moderate infection affects the adult animal hardly at all; it feeds well, can be easily fattened, and the condition is unsuspected until it is opened and prepared for cooking, indeed very often not even then. Occasionally in certain places, where animals are bred and maintained in too close proximity and with too little attention to cleanliness, excessive parasitism becomes endemic; the animals, attacked by too large an army and rendered by unhealthy surroundings incapable of much resistance, die in multitudes; but otherwise and in smaller numbers this sort of parasitism is harmless.[7] Indeed, there is probably not a four-footed animal, bird, reptile, fish, insect, &c. existing that is and has been all its life free from some kind of parasitism. Thus, though as yet not all the forms, life-phases, and reproductive conditions of sporozoa are known, yet a great deal of the effects they produce on the animals they infest is known; it is ascertained, for instance, that this effect is either nothing, atrophic, hypertrophic, or inflammatory; it is known that sarcosporidia in the muscles, monocystis in the generative organs, klossia in the kidneys, or coccidia in the liver do not produce neoplasms either malignant or benign.[8] But it might be supposed that, if one or the other of these parasites escaped from its usual habitat and were transferred, either naturally or artificially, into some other part, it might act as a tumour-provocant. This also has been the subject of experiment. For instance, Mr. D'Arcy Power introduced into the vagina of five rats, the cavity being previously prepared by painting with an irritant fluid, coccidia from rabbits' livers. In three of these animals no result worthy of note was produced; in two the orifice was sewn up, the piece of infested liver being left in the cavity, and in these there was a discharge containing a few pus cells, many unaltered epithelial cells, and the coccidia which had been introduced, but which had not multiplied or produced more than a passing inflammation. Furthermore, Messrs. Ballance and Shattock introduced by various methods coccidia into recent wounds of rabbits and monkeys, and also, by intravenous injection, into two dogs. Three of the rabbits were inoculated by scarification (both ears at one week's interval). The animals were killed at various times, from three to six months afterwards; in all there was some tumefaction about the cicatrix. "The swellings were due to nothing but reparative hyperplasia of the injured cartilage, which had been scored or even divided in the scarifications, and no psorospermia or their traces were present." Another rabbit inoculated by a long incision in the ear also showed no signs of disease. The ears of two monkeys, scarified and well rubbed with psorospermal material, showed "no signs of the experiment neither did a dog subjected to the same manifest any symptoms. Upon two dogs we experimented by intravenous injection. Psorospermal material suspended in sterilised water or salt solution was thrown into the jugular vein in considerable quantities through a glass pipette. No immediate symptoms resulted, both animals remaining quite well till they were killed five and six months later. Post-mortem examination showed all the organs to be healthy; a very careful inspection was made of the lungs but they presented no induration or other sign of embolism."

It might perhaps be averred that though psorospermosis of the viscera does not produce cancer in animals it may possibly do so in the human being. Such argument would be mere hypothesis and is contradicted by Gubler's well-known case. The patient suffered from severe gastric and hepatic troubles, with anæmia; a large spheroidal projection in the region of the liver was thought to be due to a hydatid cyst. After death there were found in the liver about twenty hard, round, yellowish-white nodules, the largest being five inches in diameter; within these, near to the epithelium, which was proliferating, numerous coccidia were found.

Thus, to sum up these results, it is seen, firstly, that infection of animals or of man by protozoa may produce irritation, hyperplasia, and inflammation, though as a rule (certainly in animals) their presence in moderate numbers is incapable of causing any disturbance whatever; symbiosis is quite established. The same creatures introduced artificially either by way of wounds into connective tissue or by inclusion into epithelium-lined cavities produce merely a very slight and transient irritation (hardly an inflammation). In no single case[9] has infection by any form of protozoa or psorosperms been found to cause neoplasm.

[4] This is the cause of the silkworm epidemic; some scientists, however, assert it to be a fungus.

[5] Riney's and Mischer's cysts.

[6] L. Pfeiffer, loc. cit., p. 106.

[7] I have in my microscope cabinet some specimens of fluid squeezed from a minute fragment of seminal vesicles of an earthworm; the fluid from that little fragment alone contains some monocystis agilis and thousands of pseudo-navicellæ (spores), and yet the animal before being killed seemed to be perfectly healthy and lively.

[8] A very short communication by Prof. Nocard is of great interest. M. Degoix, veterinary surgeon, had sent to him 20 cm. of intestine from a sheep, the sixth—and, as it seems, the last—deceased from a disease that had killed these half-dozen animals each in forty-eight hours. M. Nocard found in it small pedunculated growths, which he calls, it is true, papillomata, but he adds: "They consist, in fact, of the various elements of the mucous membrane enormously hypertrophied." The drawings bear out this latter statement; the sporozoon had produced hypertrophy, not neoplasm. The short lapse of time and the symptoms show this hyperplasia to have been simply inflammatory.—Journal of Pathology and Bacteriology, vol. i., p. 404.

[9] The contention of Wickham and Darrier as to Paget's disease of the nipple being a psorospermosis has completely failed.

ON SUPRA-PUBIC FIXATION OF THE UTERUS IN CERTAIN CASES OF RETROVERSION AND PROLAPSE.

BY THOMAS KEITH, M.D., LL.D., F.R.C.S. EDIN.

A MUCH-VALUED nurse had her first confinement in her forty-fifth year. The labour was tedious, and was completed by forceps in September, 1867. A fortnight later I was asked to see her. She was in a miserable condition, her medical attendant not having seen her since the confinement. The vagina and rectum were laid into one; the laceration in the bowel was irregular and extended for several inches. The edges were sloughy, and the putrefaction was horrible. The vagina showed other signs of having been roughly handled, several sloughs being in the process of separation; I had never seen such injuries. I called on her medical attendant, whom I knew well. He told me that he had very probably used the forceps, but he was so unwell at the time that he had scarcely any recollection of what had happened. After six months the patient had made little progress towards recovery, and the contents of the bowel escaped on every movement of the body. The ulcerated surfaces were healed, and the uterus had descended to the vaginal outlet. The lacerations were repaired by two operations. The rent in the bowel was first closed down to the sphincter by about twenty sutures of fine, soft horsehair placed very closely together, five or six to the inch. The perineum and sphincter were next united. The result was complete control over the rectum and such an improvement in the general condition that the patient went back to her work too soon, and in a few months—for she was a woman who did not spare herself—she had completely broken down. She still had perfect control over the bowel, but the perineum was lax and soft, and there was a long cervix, which sometimes came outside after exertion. The body of the uterus was very large, and the fundus pressed injuriously on the rectum. After several months of failure to relieve this condition by every sort of pessary I gave up all attempts at this form of mechanical treatment. No

instrument could be borne for longer than two or three days, and for that time only if she lay in bed. The bladder became prolapsed, and gave rise to much irritation. It so happened that I had shortly before operated on a patient with a large ovarian tumour who had suffered for many years from prolapse of the uterus with almost constant red discharge. As the ovarian tumour enlarged and rose out of the pelvis she by degrees found herself relieved of all the troubles arising from the prolapse. On being advised to have the tumour removed her great objection to the operation arose from the fear that she might return to her former distressing condition. I ventured to assure her that there was every hope of a permanent cure of the prolapse after removal of the ovarian tumour. She delayed as long as possible, for at that time early operation was not urged upon patients. The tumour was at length removed; the clamp was used, and without any undue traction the uterus was brought up to the wound. The left ovary was healthy. I saw this patient some years ago. She had had perfect health. The uterus was high up, perfectly movable, and tucked up behind the pubes, very much as I had left it twenty years before. The cure of the prolapse which resulted in this case made me think of the patient whose history I have shortly given. She was then a complete invalid, unable to support herself in any way. The operation of fixing up the uterus was proposed to her, and it was explained that in her case it was a sort of experiment. She gladly gave her consent. In July, 1869, I performed the following operation. The uterus, which was lying outside, was pushed up against the abdominal wall by means of a sound, and a small opening was made over the fundus a little larger than sufficient to admit the forefinger. Guided by the finger, the right round ligament was seized by forceps and slowly pulled upon with as much of the broad ligament as would come till the right ovary was reached, and to get this outside it was necessary to slightly enlarge the wound. The ovary was enlarged to the size of a walnut, and the broad ligament was voluminous, containing masses of tortuous veins. The traction was continued till the uterus was brought up to the wound. An ordinary clamp was then applied as close to the uterus as possible, and no abdominal sutures were required. Cicatrisation was complete in a month, the resulting cicatrix being broader than I had hoped for. A few months later she was back at work, quite well and free from all her troubles. I saw her from time to time for many years. There was never any appearance of a relapse. The uterus remained high in the pelvis and was quite movable.

Afterwards I made an improvement on this operation. After getting as much of the broad ligament along with the ovary outside, the pedicle was drawn together by a strong silk thread and firmly tied. The stump was held by forceps, and several stitches—five generally—were introduced and tied, thus closing the wound very accurately, though at the same time taking care not to place them so closely as to strangulate the pedicle. Little, almost no, peritoneum was taken in, but the union of the fasciæ and muscles was trusted to chiefly in preventing the formation of a hernia. The stump was then dried by perchloride of iron, and the ordinary clamp was applied on a level with the encircling ligature, so that the tissues did not spread out, and there was thus a slender stump left to separate; when the wound was healed it was impossible to tell from the cicatrix whether a clamp had been used or not. In none of the cases was there ever a trace of hernia, and no wound ever suppurated. Every now and then, mostly in the early cases, from over-anxiety to close the wound very accurately, there was a prolapse of the pedicle, but harm never resulted. The peritoneum was so closely united round the stump that no irritating secretion could get down into the pelvis and set up septic or other mischief. As there was a great sameness about all these operations it is not necessary to give many of them in detail. I shall content myself with one or two.

A lady aged thirty consulted me in the summer of 1880. Soon after the birth of her only child she began to fail in health, and, whatever her trouble was, she blamed a fall from her horse for causing it. She had always been a very strong woman and able for any amount of exercise. Now she could do almost nothing, everything became a burden to her, there were all sorts of pelvic pains, menstruation became profuse, and the only position in which she got any relief was lying on her face. For a time she was relieved by Dr. Thomas of New York with a pessary. This improvement was evanescent, and, in spite of fighting against her troubles in every possible way, she by degrees became a complete wreck. I never met a woman who so thoroughly enjoyed life. She was full of energy, and when I came to know her better I can safely say that I never met one who had so much endurance and pluck. She was extremely anxious to get well, and her husband, anxious to do the best for her, brought her to London. After six months of treatment—or rather of no treatment—she was worse than before, could do nothing for herself, and had to be carried everywhere. At the last visit she was told that there was little or nothing wrong with her, and that she was quite able to walk about like other people if she would only do so. She was much depressed, and in this condition I first saw her. The uterus was retroflexed; the sound went in about three inches and a half; the uterus could be anteverted with ease, but on letting go the instrument it was forcibly thrown out of the uterus upon the floor. This manœuvre was repeated two or three times with a similar result, the retroflexion remaining exactly as before. The pelvis was unusually large, all its packing was gone, everything in the pelvis was tender, and the mucous surface of the vagina was red and irritable. Neither tubes nor ovaries could be felt, and I advised her to go home to Nova Scotia, where she lived, to take a year's rest, and let all local treatment alone. At the same time I told her that she would probably not get quite well till the menopause. She rested nearly a year and got slowly worse. Her family attendant then treated her locally by pessaries and other means without the slightest benefit. She was now quite broken down and had become a regular invalid. She wrote me telling of all this, and I recommended her to go to Dr. Thomas of New York, who had put her right for a time after the fall from her horse. After four months' treatment he told her that he could not cure her. She then became a patient of Dr. Emmet, and at first was relieved when the uterus was kept raised by cotton soaked in glycerine. She spent two years in various surgical homes and underwent several operations. She had her Douglas's space lessened, a large portion being cut out; the anterior vaginal wall was contracted, but nothing was of service to her, and she was lastly advised to have her ovaries taken out. She came back to me in 1883. The local condition was much the same as when I saw her in 1880; the uterus was easily anteverted, and the sound was shot out as before. The irritability, tenderness, and vascularity of the mucous surfaces seemed even greater than they had been. I could detect no enlargement of either tubes or ovaries, and there was not a trace of cellulitis. The symptoms seemed to be entirely connected with the uterus. Something had to be done: I could not send her away a second time. She was not a neurotic woman, as she had been called by many. I made my visits at irregular hours. She was always in the same position, lying on her face. She went through a great deal of stiff reading, and was carrying on the education of her daughter. On March 14th, 1883, I opened the abdomen. All the exposed peritoneum was somewhat vascular. The pelvis felt quite bare, all fat had disappeared, and she was much emaciated. The ovaries were slightly cystic, but not enlarged; the left tube was a little dilated and somewhat hard. It was evident that all the years of suffering could not have been caused by the slight appearance of disease presented by the tubes and ovaries. The enlarged and hard uterus along with the ovaries was brought outside to see how the retroflexion behaved; on being let go the fundus at once fell backwards, carrying the ovaries with it into the pelvis. This manœuvre was done several times, and on one occasion several folds of intestine were caught when the uterus doubled backwards. Carefully examining the whole pelvis by a reflected light, no other appearance of disease could be detected. The left tube, being the suspicious one, was removed, and the right broad ligament was enclosed in a clamp as in a simple ovariotomy treated extra-peritoneally. There were no bad symptoms, and the patient was up on the twelfth day. Sitting at the window on the sixteenth day, she got a chill, which was followed by a slight attack of phlegmasia dolens in the left leg and thigh. This retarded convalescence, and the limb was painful for several weeks. She went home in the autumn and regained perfect health. The husband had contracted a chronic bronchitis from the east winds in Edinburgh during the spring, and they passed the first winter in Jamaica and the next winter in California. They travelled altogether about 16,000 miles; they were often many hours at a time on horseback or in a springless waggon and over the worst roads, without her suffering in the least. The next four

years she had, as she called it, "a good time." She was strong and active, did not know that she had a body, and thoroughly enjoyed life. She then met with an accident, falling off some steps and striking the left renal region. This was followed by the development of a retro-peritoneal sarcoma, and she died on April 8th, 1891, eight years after the operation. There was a post-mortem examination by Dr. Black of Halifax, and I extract from it all that concerns this history: "The uterus adherent by right ligament to the cicatrix, this being about one inch in length and allowing free movement of the organ, which had formed no other adhesion." This is the ordinary condition in all clamp cases. The uterus never adheres, but remains free; a totally different condition exists in most of the recent operations for fixing up the uterus.

A woman, the mother of several children and wife of a rancheman on the Gulf of Mexico, had her perineum torn into the rectum at one of her confinements. On this account she was practically useless as an emigrant's wife, for she had to see after so many things. She was operated on five times by American surgeons, but all the operations failed, and she came home to see me. The uterus was enlarged, heavy, and retroverted, and was kept up by a large pessary; but even with this she was fit for almost nothing. Operation for the laceration of the perineum and sphincter ani was performed by my son. I saw her four months later with an ample perineum and with complete control over the bowel, but after some months she returned with the perineum almost entirely absorbed. The union of the sphincter was, however, perfect. The operation on the perineum was repeated, and the whole of the cicatricial tissue, of which there was a great amount, was cut away. This was followed by perfect union; yet after some months she was not sufficiently well for an emigrant's wife. The retroversion became troublesome, and the uterus lay low in the pelvis. It was then fixed in the same way as in the other cases, and now a perfect cure has resulted. She has continued well since she returned to America.

A married woman who had long suffered much from retroversion and prolapse of the uterus was operated on by my son after Alexander's method. There was no special difficulty in the operation, and the uterus was fixed close to the abdominal wall. At the time it looked as if nothing could go wrong again; yet in four months she returned with the uterus lying low in the pelvis and retroverted as before the operation. The uterus was fixed up by a clamp. Two years after the operation the uterus was high up in the pelvis, normal, and freely movable. The patient died five years after the second operation; there was no necropsy, but locally she had remained perfectly well.

I have now performed this operation since 1869 thirty-four times, and my son has done it some seventeen times. They were almost all extreme cases of retroversion, a few only being performed for prolapsus, that I could not relieve in any other way. All were cured, not only for the time, but permanently. I feel pretty sure, when some radical treatment is necessary, that the above operation is by far the simplest way to effect a cure, far better and freer from risk than any of the methods that have of late been brought forward by stitching the uterus itself. I should be very unwilling to put a number of stitches through the uterine substance and through the abdominal wall, with the object of making the uterus permanently adherent. A death must come now and then in any such operation, while in the one I have carried out the great advantage is that the uterus itself is neither touched nor does it become adherent anywhere except by the pedicle, as in cases of ovarian tumour which were treated by the clamp. No after-trouble ever resulted from the clamp in any case of ovariotomy that I have had, and pregnancy went on without a drawback. In Alexander's operation there is nothing to trust to except the simple round ligaments. In the other operation there are the round ligament and all the tissues that go to make up the broad ligament, and all covered by peritoneum. There is no invasion of the cellular tissue anywhere by needles and stitches, such as happens in every other method.

Some months ago a number of cases of the operation I condemn were published, and the mortality was one in ten. The operation I propose when necessary is, I believe, when properly performed, certain to attain its purpose, and it ought to be free from any danger to life. The mortality will be that of the removal of a simple non-adherent ovarian cyst, which is practically nothing; but is it certain that the other methods where the uterus is fixed are permanently successful? One knows how easily adhesions in the peritoneal cavity disappear after a time. The same happens in plastic operations in the vagina. My son, when house surgeon to the Women's Hospital in New York, made careful inquiries as to the future of cases operated on, and where there is more plastic work done than in any similar institution in the world, and he formed the opinion, which was pretty generally believed in, that at the end of a few years the adhesions had often disappeared, and that the parts had returned to the same condition as before operation. This cannot happen when the uterus is attached by means of the broad ligament. The experience gained by the use of the clamp in the early days of ovariotomy shows this. The principle of the two operations is quite different. In the one the object of the operation is to cause adhesion of the body of the uterus; in the other the object of the operation is to have it movable and free. The only objection which may be made against this method of cure is that it necessitates the loss of one of the ovaries, though, for that matter, one ovary seems to be as useful as two. The ovaries themselves were rarely diseased, but in several instances the tubes were thickened and enlarged. By preference I take the right broad ligament, for if the left be taken there is generally more tension on the bowel from the shortness of the mesocolon on the left side. Long ago this used to trouble me in using the clamp in ovariotomy; there was greater difficulty in the passage of flatus when the clamp was round the left ligament than when it was round the right, and several times I have seen flatus pass within a few minutes of removing the clamp. There is no occasion to drag the body of the uterus into the wound: all that is needed is that the fundus of the uterus be swung off the floor of the pelvis.

The first thing to be considered in advising any surgical interference for what is only a great inconvenience to the patient is that there be no risk to life, and so far this end seems to be attained in the simple operation now proposed. In fifty-two cases, including one performed by Dr. G. E. Keith, there has been no mortality, but a perfect cure in every one. The only thing to be attended to is to take care to close the wound accurately under the clamp. It was a long time till the clamp was treated properly, and just as it was being made simple and safe Lister came in with his aseptic ligatures, and the extra-peritoneal method disappeared, to be revived many years later, when hysterectomy came into fashion. Here also I found benefit from the way that the wound was closed round the stump, and no one was able to approach my success. Later that method was improved upon by removing the whole organ with the tumour, stitching the rent in the vagina, and closing the wound. This method very soon gave place, except in the case of very large tumours, to the treatment by galvanism, with which I am, generally speaking, well satisfied. I wish it to be distinctly understood that I do not advocate the frequent performance of this operation, simple and safe though it be. Most cases of retroversion and prolapse can be remedied by a well-fitting pessary, and I should be very sorry to see an epidemic of this operation such as appeared some years ago in the unnecessary removal of the ovaries—a practice which, I fear, has hardly yet disappeared.

Charles-street, Berkeley-square, W.

NOTES ON PATHOGENIC SPIRILLA.[1]

BY JAS. RICHMOND, M.B. OXON., M.R.C.S. ENG., D.P.H. CANTAB.

EARLY in the present year there was an epidemic of choleraic diarrhœa in Lisbon. The disease was characterised by all the symptoms of Asiatic cholera, but among thousands of cases there was only one death attributable to the disease. The disease appeared to be transmitted by contagion and by soiled linen. Late in 1893 there had been a few cases of gastro-enteritis, with vomiting and diarrhœa. In April, 1894, the epidemic broke out with explosive violence after heavy rains, attained its maximum in the middle of April, and decreased as rapidly. At the necropsy of the fatal case it was found that the stomach contained partially digested food, and the small intestines unstained gelatinous mucus. The serous covering of the small intestine had a

[1] From the Pathological Laboratory, The Owens College, Manchester.

"hortensia tint." The mucous membrane of the stomach was congested, with hæmorrhagic points about the pylorus; that of the small intestine was also congested, especially near the ileo-cæcal valve. Dr. Camara Pestana found in the stools of forty cases examined a spirillum like that of Koch.[2] S-shaped forms were also found. The spirillum is motile and has a flagellum at one end; it coagulates milk; the colonies in plate cultures on gelatine are more regular in outline than Koch's, and stab cultures show greater liquefaction on the surface than in the depth of the gelatine. Cultures in watery saline solutions of peptone gave no cholera-red reaction, so that no nitrites are formed (as they are by Koch's spirillum); Chantemesse found, however, that indol was present in these cultures. At the onset of the epidemic recent cultures of this spirillum grown on agar killed three guinea-pigs; a sample culture sent to Chantemesse had, however, lost this virulence.[3]

The interesting point in connexion with this epidemic is the confirmation it affords to the researches of Finkler and Prior on a small epidemic of choleraic diarrhœa which occurred at Bonn in 1884, in which these observers isolated from the stools of the cases their well-known spirillum. That spirilla closely resembling that of Finkler and Prior can exist in the sewage of an apparently healthy community is shown by the results of the examination which I made last February of Manchester sewage. The sewage was taken from the affluent sewer at the sewage works at Davyhulme and was of a dark colour, clearing, on standing, with a black deposit; the odour was tarry. Cultures of 50 c.c. each were made with 1 per cent. salt and 1 per cent. peptone, and kept at 21° C. for seven hours; next, ordinary saline peptone solutions were inoculated from the upper layers of these cultures and kept at 21° C. for eight hours; and then, from these, further inoculations of saline peptone water were made and kept at 21° C. for twenty-four hours. The peptone cultures had at first a very strong cheesy smell. These cultures were found to contain curved and straight bacteria, and after several plate cultures had been made the curved forms were isolated from the others and studied in pure cultures. The vibrionic segments had the same appearance and size as those of Finkler; each was provided with a flagellum placed at one end in one of the rounded corners. In drop cultures single comma, S-shaped, and spirillar forms could be seen in motion. On gelatine plates the colonies, composed of large granules, were circular or oval, and had irregular borders occasionally when examined within twenty-four hours, but were usually liquefied in twenty-four hours, looking like colonies of Koch's typical spirillum of three days' growth. Stab cultures in gelatine showed a slight cupping of the surface of the track and a little liquefaction along the track in twenty-four hours; in forty-eight hours these conditions were more marked; in seventy-two hours the track had the shape of the finger of a glove; and in eight days almost all the gelatine was liquefied and slightly turbid. The liquefied gelatine plates had an aromatic odour, somewhat like that of fresh cow's milk. Bouillon cultures formed in twenty-four hours at 37° C. an easily broken film on the surface. On agar at 37° C. the growth was profuse and moist, of a yellowish grey colour, and opalescent at the edges. On potato the growth was profuse and moist. There was no coagulation produced by the spirillum in milk previously sterilised in the autoclave. One-fifth part of a recent agar culture was pathogenic to guinea-pigs when injected into the peritoneum. The cultures in saline peptone water kept at 37° C. for twenty-four hours did not give the cholera-red reaction, but the presence of indol was shown by the production of a purplish red colouration on addition of a few drops of weak solution of potassium nitrate and a few drops of strong sulphuric acid. Thus these cultures do not in twenty-four hours contain nitrites, but do contain indol. Some of the peptone cultures gave the cholera-red reaction after two or three days. When first isolated the organism did not stain well and resembled the "attenuation forms" of various observers. Koch has formulated certain tests as to the validity of the claim of a spirillum to be the spirillum choleræ asiaticæ: (1) It must be found in connexion with cholera; (2) it must give the cholera-red reaction in 1 per cent. peptone and 1 per cent. salt in watery solution kept from twelve to twenty-four hours at 37° C.; and (3) it must be pathogenic to guinea-pigs, as tested by intra-peritoneal inoculation of recent cultures.[4] It is interesting to note that Professor Delépine isolated spirilla answering Koch's tests from the stools and intestinal contents of suspected cases of cholera occurring in Manchester last September.[5] Sanarelli last year, at a period when cholera was not prevalent in Paris, found in the sewage spirilla which were pathogenic to guinea-pigs and gave the cholera-red reaction in peptone water cultures; he found similar organisms in the water of the Seine and in the Versailles water-supply derived from the Seine. Now, Versailles has always remained free from epidemics of cholera.[6] Neisser also isolated from the Berlin tap water last year a vibrio resembling that of Koch in every particular except that its colonies on gelatine plates were more finely granular, and smoother in the early stages as a rule than those of Koch's vibrio, and cholera was not epidemic in Berlin last year.[7] Repeated examinations of tap water made in Manchester failed to yield any spirilla when examined in the same way as the sewage. The water-supply was *primâ facie* the vehicle of the cause of the disease if one may judge by the explosive form of the epidemic and its close sequence on torrential rains. The water-supply in Lisbon a few years ago[8] was obtained from three sources—viz., the aqueduct of Alcantara, which carries water of good quality from without the city; water, also of good quality, from the River Alviella, 114 kilometres distant; whilst some houses got their supply for washing purposes from old and foul wells. If water from these wells had been used in any way, the epidemic spread after the first case had arisen in the neighbourhood of the wells would have been intelligible; on the other hand, the facts above mentioned respecting the water of Versailles and Berlin show that spirilla which are pathogenic to animals and give the cholera-red reaction when present in drinking-water do not necessarily lead to epidemics of cholera. This immunity may be due to the organisms being insufficient in number or virulence to cause cholera, or to the natural immunity of the community from various causes. Whatever may be the causes of this immunity from cholera of various places, or the relations to one another and to cholera of these various spirilla, one can, at all events, draw from the facts above related the commonplace, but very safe, conclusion that drinking-water should be kept apart from fæcal refuse.

Addendum.—At the recent congress at Budapest Chantemesse stated that the Lisbon spirillum, after intraperitoneal inoculation of several animals in succession, acquired temporarily the typical characters of the Indian spirillum.[9]

Manchester.

[2] Chantemesse points out that it differs from Koch's in its shape, being more like a crescent with pointed ends and a swollen centre.

[3] Abstracted from "L'Epidemie Cholerique de Lisbonne." By A Chantemesse. La Semaine Medicale, June 13th, 1894, p. 271.

[4] Koch: La Semaine Médicale, 1893, p. 265.

[5] Brit. Med. Jour., 1894, vol. i., p. 120.

[6] Annales de l'Institut Pasteur, 1893, p. 693.

[7] Günther: Einführung in das Studium der Bakteriologie, p. 293. Leipzig, 1893.

[8] Emmerich, quoted by Arnould in article "Eau" in Encycl. des Sciences Médicales, 1885, vol. xxxi., third series, p. 547.

[9] La Semaine Médicale, Sept. 12th, 1894, p. 415.

A CASE OF

LEUCOCYTHÆMIA APPARENTLY CURED BY BONE MARROW.

BY W. G. BIGGER, M.B. R.U.I., M.R.C.S. ENG.

As leucocythæmia is generally considered of necessity a fatal disease, I think that particulars of a case in which improvement has occurred under treatment with bone marrow may be of interest. The case is also unusual from the length of time that the disease lasted.

The patient, a lad aged twelve, came under my observation about six years ago suffering from splenic enlargement with anæmia and the usual symptoms accompanying it, such as palpitation, dyspnœa, &c. Previously to this he had attended various hospitals in London, and immediately before coming under my care was under treatment at the Hospital for Sick Children, Great Ormond-street, for "splenic cachexia." During the past six years he had had from time to time courses of arsenic and iodide of iron. Under this treatment the anæmia had always improved, but until recently the enlargement of the spleen had not varied. Some two months ago the disease acquired a more active character and the boy rapidly sank into a critical condition. The spleen became much larger than before and completely

filled the left half of the abdomen, extending into the iliac fossa and across the middle line for two or three inches. Associated with this enlargement of the spleen there were very rapid emaciation and marked anæmia, accompanied by an icteric tinge. To these symptoms were added diarrhœa, pyrexia, and frequent attacks of epistaxis. The pulse was very rapid, and there were dyspnœa and palpitations on the slightest movement. There was no enlargement of the lymphatic glands. In spite of full doses of arsenic and iron the anæmia and wasting continued to increase, and this so rapidly that I could see a change for the worse at every visit, and the case assumed an almost hopeless aspect. It was at this juncture that Dr. Fraser's paper on a Case of Pernicious Anæmia treated with Bone Marrow[1] appeared, and it occurred to me that possibly an equally good result might be obtained in leucocythæmia. The boy's mother readily fell in with my suggestion and provided him with a supply of bone marrow, which he ate spread on thin slices of bread. It was given raw as I did not know what the effect of cooking might be on the activity of the marrow. For the first two or three days the result did not appear to be satisfactory, as the spleen became more tender and complaint was made of acute pain over the splenic area. (This may have only been a coincidence, and due to one of the attacks of localised peritonitis common in this disease.) The pain was relieved by hot fomentations and soon passed away, and the spleen became less tender, and by the end of the first week of the new treatment the patient looked and felt so much better that there was no doubt as to the advisability of continuing it. At first there was some repugnance towards the raw marrow; but this soon passed off, and there was no difficulty in getting down two or three slices of bread, thickly spread with marrow, three or four times a day. The improvement in the boy's condition after the first week was little short of marvellous. The anæmia and jaundice disappeared, and the skin and mucous membranes acquired a healthy colour. The symptoms due to the anæmia at the same time passed off, and in three weeks the boy was able to walk about without shortness of breath or palpitation. The temperature also became normal, and has remained so. *Pari passu* with this improvement in the general symptoms the spleen diminished in size, so that by the end of a fortnight the lower edge had receded to a level with the anterior spine of the ilium, and the inner edge did not extend beyond the middle line. At the same time the organ was less bulky and heavy, the thick rounded edge giving place to a thin margin under which it was possible to easily insert the fingers in palpation. At the present time, after a month of the treatment, the boy is better than I have ever known him to be, and the spleen continues to diminish in size; though still extending about three inches below the ribs, it causes no inconvenience and is not at all tender to the touch. Too short a time has elapsed to allow of any conclusion being drawn as to the completeness or permanency of the cure. The results, however, in this case as far as it has gone are very encouraging, and I hope that others with larger opportunities will give the treatment a trial and by publishing their results enable the profession to judge how far this newest therapeutic agent is of value in this and kindred diseases.

[*Note.*—Sept. 19th: The boy is now perfectly well and the spleen of normal size.]

Streatham-common, S.W.

[1] Brit. Med. Jour., June 2nd, 1894.

CASE OF ACUTE TRANSVERSE MYELITIS; DEATH; POST-MORTEM EXAMINATION.

BY C. S. EVANS, M.B. CAMB., M.R.C.S. ENG.

THE patient was a man aged twenty-four, strong and muscular. One month ago he was noticed to look ill one evening, with "redness of face and head, with trembling." He worked, however, next day and after. For one month he daily did one kind of work only, unloading hay from the cart to the rick, and for fourteen days "felt it very hard" and thought it "strained him," but he did not give up until Aug. 4th, when he took twice the ordinary time (two and a half hours) walking home. On that day he remarked he "had had a cold for a fortnight." The next day he felt worse, "aching all over," and on the 6th fell "from weakness" and took to his bed. On the 7th I saw him first. He complained of "aching all over," and of nothing else. The temperature was 101° F., sweating was profuse, the conjunctivæ were congested, the pupils were equal but small, and there was no special backache or headache. The right arm was much enfeebled; he could hardly raise the hand to the head. The grasp also was very feeble. He had had no sleep for two nights.

Aug. 8th.—He says he "cannot hold up his head." (He can, but only with great effort.) The right arm cannot be lifted at all. There is no grasp, and the fingers can hardly be stirred. There is no special or localised pain at all. His mind is clear and cheerful. The left arm is slightly enfeebled. There is no anæsthesia. Pin-stroke is more acutely felt on the right arm and chest on the right side, especially about the sixth dorsal nerve area. No knee-jerks are obtained. There is no optic neuritis. The legs are only slightly and equally enfeebled. He has hallucinations of sight, but none of hearing. He has slight, transient, hazy delirium in the night. (He drank cider, but was not intemperate. There had been no fall or known trauma.) There is no tremor and no cramp. The breathing is solely diaphragmatic even in forced inspiration. There is some difficulty in swallowing during the day.

Aug. 9th.—He died quietly in the early morning with increasing difficulty of breathing. He was unable to speak during the last half-hour. He was apparently conscious and free from pain to the last. "Two or three hours before death the breathing ceased once so long, he was thought to be dead."

Only a partial necropsy was permitted forty hours after death. Near the middle of the cervical enlargement the cord was diffluent. Above and below this the right anterior cornu looked redder, softer, and larger. The theca in the upper half was thickened. Only the cervical part of the spine could be dealt with.

Family history.—The paternal grandmother was between seventy and eighty years of age, and kept a public-house in the village. The paternal grandfather was forty-five years of age when he died from "decline" (?). The father is living, aged sixty, and fairly strong, but subject to lumbago. The maternal grandmother was between fifty and sixty years of age. The maternal grandfather is eighty-five, "hale, hearty." The mother is an extreme case of fibrous ankylosing osteo-arthritis, has been bedridden for five years, can only move the hands from one hip to the other and her head, and has had symmetrical patches of skin gangrene and bladder crises, but no definite signs of "ataxy." Of five brothers one (older) died from aneurysm, one (younger) died from phthisis, and three are living; of the sisters two are living and in fair health, and two died in infancy. The family live where his father lived for fifty-nine years, and where the grandmother lived before him.

Notes of microscopical examination of the cervical cord, by Mr. J. H. TARGETT.—The spinal cord of the patient shows very acute transverse myelitis. The anterior cornua are crammed with leucocytes, the vessels much dilated, and the large motor ganglia are swollen and indistinct. Many of the white fibres have utterly perished, though I did not choose the most diffluent part of the cord. Sections were taken from different parts, and they showed varying degrees of the same change in the cervical enlargement, and two inches lower down the dorsal cord "seemed healthy" (not cut).

Remarks.—As to the etiology, regarding osteo-arthritis as at least associated with spinal defect, inheritance may have played a part in causation. The myelitis was probably due to influenza. Regarding the character of the man and his work, I am sure that there was an unusual, prolonged, and severe demand made by hard and monotonous labour on the musculature of the arms and upper spine.

St. Thomas's-street, S.E.

CELLULITIS FOLLOWING MULES' OPERATION.[1]

BY SYDNEY STEPHENSON, M.B., F.R.C.S. EDIN.,
SURGEON TO THE OPHTHALMIC SCHOOL, HANWELL, W.

FROM a scientific standpoint the record of a failure is often not less important than that of a success, a truism

[1] A paper read in the Section of Ophthalmology at the annual meeting of the British Medical Association at Bristol, Aug. 3rd, 1894.

that specially applies to surgical procedures which are still *sub judice*. Mules' operation has been before the profession for nearly ten years, yet great differences of opinion still exist as to its value. The main object of the present communication is to elicit from members of the medical profession their views as to the advantages of evisceration of the eyeball and their experiences as to its disasters. I may preface my remarks by saying that the case to be narrated is the only one out of a series of thirty in which the operation has, in my practice, been followed by an untoward result.

A boy ten years of age became an inmate of the Ophthalmic School at Hanwell towards the latter end of 1891. Six years previously his left eye had been accidentally cut by a companion, and since then had been subject to periodical attacks of redness and of pain. The condition of the eye may be summed up in a few words. Perception of light doubtful. Tension – 1. The cornea was crossed by a cicatrix which engaged the iris and extended for three millimetres into the neighbouring sclera. No trace of a pupil was present, and the eye was tender and readily irritated by slight causes, such as exposure to light. On Jan. 7th, 1892, evisceration of the eyeball was performed under ether. A glass sphere (the smallest size but one) was introduced into the scleral cavity, and the wound was closed by three sutures of fine China twist, inserted in a vertical direction. The operation was done with the ordinary antiseptic precautions. A light dressing of iodoform and boric acid ointment was applied to the lids. During the course of the two following days reaction was marked by the usual signs—viz., slight rise of temperature, pain in the eye, swelling of the lids, and a certain amount of chemosis. The patient slept fairly and ate well. On Jan. 11th the chemosis had increased markedly and formed a yellowish fold, flecked with hæmorrhagic points. Some small white vesicles were observed upon the skin of the lids, the nature of which was doubtful. Iodoform was, however, discontinued. On Jan. 13th it was noted that the left preauricular gland had become swollen and tender. The chemosis was more extensive, and its appearance reminded one somewhat of a tomato protruding from the palpebral fissure. On this date numerous punctures with a narrow blade were made into the swelling, and were then followed by iced applications. On the next day—that is, a week after evisceration—it was found that the stitches had given way, thus exposing the glass sphere to view. The latter was therefore removed, together with the sutures, and the scleral cavity was douched out with a tepid sublimate solution (1 in 5000). Notwithstanding this measure, chemosis continued to increase, and by Jan. 20th a lake-coloured fold of conjunctiva lay on the cheek and measured 40 mm. by 15 mm. My experience of the operation having furnished me with nothing parallel to the foregoing symptoms, I wrote to Dr. Mules, who advised that the eye should not be bandaged and that the patient should be allowed to go about armed with a pair of protective goggles; further, that lead lotion should be used three or four times in the course of the twenty-four hours. Dr. Mules' recommendations with regard to treatment were put into force on Jan. 22nd—that is, fifteen days after the operation. By Feb. 6th the chemosis had become so far reduced as to permit the intermarginal space of the lower lid to be seen in almost its entire extent. Palpation showed that at this period a small hard mass, slightly tender to the touch, lay in the depths of the orbit. On Feb. 24th the conjunctival protrusion measured 25 mm. by 10 mm. and could be seen to arise almost wholly from the lower lid. To shorten my story, the chemosis, after undergoing some trifling diminution, reached a stationary condition, a small button of granulation tissue sprouted from the operation wound, and the nodule, already noted as occupying the orbit, remained without alteration. This state of things continued for ninety-three days after operation, when further steps were deemed necessary. Accordingly, ether was administered and the orbital stump was removed by dissection, during which operation a small quantity of fat was unavoidably taken away. It was observed that the muscles attached to the mass were hypertrophied, a remark that also applied to the optic nerve. Eight months after the second operation the following notes were made: "The left orbit is occupied by some seven folds of pale conjunctiva, which radiate from a central point, not unlike the spokes of a wheel. With a single exception the furrows between adjacent folds are not deep." The patient was last seen about five months ago—i.e., upwards of two years after the performance of evisceration. The conjunctiva was then a good deal thickened and was disposed in a bunch-like way. An artificial eye had been introduced on more than one occasion, but its use was ultimately abandoned, since it caused irritation of the stump, as shown by discomfort, redness, and discharge.

Mr. John Griffith, pathologist to the Royal Westminster Ophthalmic Hospital, was good enough to examine the stump removed at the second operation, and this was his report.

"1. *Macroscopic appearances.*—To the naked eye and to the sense of touch the mass presented a very irregular nodular look. A button-like granulation sprouted from its anterior aspect, and the optic nerve entering it posteriorly was apparently enlarged. The soft tissues around the hard and nodular stump were constituted by the muscular, tendinous, and fascial structures of the neighbourhood. The irregular outline of the thickened sclera could be readily distinguished on section.

"2. *Microscopic appearances.*—The structural tissues of the stump are mainly fibro-cellular. The sclera has undergone extensive hyperplastic changes, and is about five millimetres in thickness. The increase is mainly due to the organisation of inflammatory material, and many fibro-blastic cells are still present in the meshes of the fibrous matrix. The stone-like nature of the stump is accounted for by the fibrous condition of the hypertrophied sclera. The cavity of the latter contains fibro-cellular material, arranged in open meshwork and showing many large vascular channels. There is an almost complete absence of pigment cells, of which, however, a few may be recognised near the entrance of the optic nerve. The nerve, although quite distinct, is undergoing an extensive metamorphosis. Its axis cylinders are not to be distinguished, and its fibrous reticulum is denser and more cellular than normal. The granulation button is composed of loose fibro-cellular tissue. The fascial and tendinous structures that surround the stump are thickened. Since no sections show muscular bundles the latter have probably been trimmed away in preparing the specimen for the microscope."

To explain the foregoing case one is bound, I think, to assume the existence of a septic infection, passing by the perforating veins of the sclera into the tissues of the orbit and there setting up inflammation. It is not impossible that septic changes were present prior to operation—that the altered nutrient and other conditions brought about by surgical interference roused into activity germs that had long lain dormant in the tissues. In other words, the organisms had been introduced into the interior of the eyeball by the accident six years before. The alternative theory, that infection occurred during operation, must of course be carefully considered. I would repeat, however, that the details of the operation and the antiseptic precautions were absolutely identical in this case with those in twenty-nine other cases that did well.

Welbeck-street, W.

THE EFFECT OF CREASOTE ON THE VIRULENCE OF THE TUBERCLE BACILLUS.[1]

BY W. KINGTON FYFFE, M.B. CANTAB., M.R.C.P. LOND.,
MEDICAL REGISTRAR TO ST. GEORGE'S HOSPITAL; LATE PATHOLOGIST AND MEDICAL REGISTRAR TO THE VICTORIA PARK HOSPITAL FOR DISEASES OF THE CHEST.

IT is, I think, a moot point amongst practical physicians as to whether the admitted good which comes to the phthisical when treated with creasote is due to any interference with the virulence of the organism, or simply to the fact that the drug, by its antiseptic qualities, stops fermentation taking place in the stomach, consequently improves digestion, and so aids in the assimilation of food. The whole question resolves itself, in fact, into a simple issue: Has creasote any effect on the virulence of the bacillus, or does it simply act by increasing the powers of resistance of the patient? Whilst admitting at once the power of creasote in the latter direction, I hope to be able to show that the drug, if given in sufficient dose, does certainly interfere with the virulence of the organism in a very marked degree.

There are three methods by which creasote is commonly administered at the Victoria-park Hospital: (1) as an inhalation,

[1] A paper read before the Pathological Section of the British Medical Association at the Annual Meeting at Bristol this year. (From the laboratory of the Conjoint Board.)

(2) by the mouth, and (3) by means of the creasote chamber. In the first method from ten to twenty drops of creasote are placed on a sponge inserted in the perforated zinc plate of an ordinary inhaler; this is tied like a respirator over the patient's nose and mouth, and left on for several hours in the day time; often the instrument is worn all night. The second method is familiar to everyone. The third, so far as I know, was initiated by Dr. Arnold Chaplin, assistant physician to Victoria-park Hospital. A small room some eight or nine feet square is chosen; the patient, with his eyes protected by glasses and his nostrils plugged, is placed in it, and a few ounces of ordinary commercial creasote are then placed in an iron dish over a spirit lamp and heated. As the creasote becomes hot, fumes rapidly come off till the whole room is thick with vapour and the patient is breathing little else. He is kept in this atmosphere for an hour at a time. Such, then, are the three methods which I have attempted to investigate and compare.

It seemed possible that something might be learnt by frequent observation of the morphology of the bacillus and some comparison in numbers, size, or form instituted between the sputa of patients taking creasote and those taking other drugs. With this end in view the sputa of twenty cases of phthisis, some of whom were taking creasote and some the ordinary drugs, were examined twice a week for two months, and differences in the number of the bacilli and their morphological characteristics were noticed. This method was then relinquished because, as far as these observations went, they tended to show that the number of tubercle bacilli bore little or no relation to the condition of the patient's health, and that no distinction could be drawn, either from their number or their morphology, between the bacilli of those cases treated by creasote and those taking other drugs. The second plan adopted was that recommended by Dr. Delépine at last year's meeting of the British Medical Association—namely, that of injecting tuberculous sputum into the leg of a guinea-pig. If this be done it appears to be invariable that in a few days' time the popliteal glands are affected, then the inguinal, and finally the lumbar. At the end of fifteen days the spleen and liver are definitely diseased, and if kept for a month or five weeks the lungs succumb and the guinea-pig dies. There is, therefore, a definite normal course of events taking place, and, given that the resistance of the animals is the same, it is possible to gauge the virulence of the injection by the extent of the mischief done. Thus, if at the end of fifteen days, when normally the liver, spleen, and glands should be affected, instead only the glands are the seat of disease, it is fair to say that the virulence of the sputum is less than normal. The resistance of the guinea-pig may be neglected, since all guinea-pigs absorb the tuberculous poison with avidity, but that there should be no possibility of error only the smooth-haired variety of guinea-pig was used.

The first series of observations was made on patients who were not taking creasote internally, but were inhaling it. At the same time they were one and all taking cod-liver oil or hypophosphites. All of them had definite physical signs of phthisis, with bacilli in their sputum. The cases selected were those in an early stage, who showed evidence, by the stethoscope and their general condition, of fairly rapid change. Advanced cases were avoided, on the principle that no drug was likely to affect them. The sputum taken was that coughed up in the early morning. This was injected into guinea-pigs before treatment of any kind was begun, when the patients first came in. At the end of their two months' stay in the hospital another specimen of sputum was injected into other guinea-pigs, and the results were compared. In each case the animals were kept one month before being killed. The sputum of twelve such cases was used, and to save time I may state at once that in every case the glands, spleen, liver, and lungs were found to be affected in those guinea-pigs killed after the second injection, and that these lesions differed in no way from those produced by the first injection. Hence it may be taken that creasote given as an inhalation has no effect whatever upon the virulence of the bacillus. It is to be added that in eight of these cases the patients left the hospital, having gained, some two stone, some six, and one a stone in weight. Their general health was much improved, but their physical signs were unaltered. Such improvement cannot be put down to the diminished virulence of the organism, but to the increased power of resistance in the patient.

The next series of cases was that of patients taking creasote by the mouth, and here the results were distinctly more encouraging. The dose ordinarily given is from two to twelve minims, not more. With regard to the smaller doses, a guinea-pig was injected with the sputum of a tuberculous patient before treatment. In three weeks the animal died from tubercle. The patient was treated with two minims of creasote three times daily for two months, and at the end of that time a second inoculation was made. In this case the animal lived for seven weeks and then died from general tuberculosis, so that, whereas in the first case such was the virulence of the sputum that the guinea-pig died in eighteen days, after treatment by the internal administration of creasote in small doses it did not succumb for seven weeks. In a second specimen from another patient taking the same dose the animal injected with the untreated sputum was killed at the end of fifteen days and found to have all its organs affected with tuberculosis. Another one, inoculated with the sputum at the end of two months' treatment, and killed on the fifteenth day, showed tuberculosis of the popliteal, inguinal, and lumbar glands, but no affection of any of the internal organs. With larger doses of creasote given by the mouth the effect was still more striking. Thus, an inoculation was made on Feb. 9th with untreated sputum from a patient who was put on six minims of creasote three times a day; the guinea-pig died on the twentieth day, with the usual post-mortem appearances. A second inoculation was made in another one on the same day, and it was killed on the fifteenth day, with tubercle affecting the abdominal viscera and beginning to affect the lungs. At the end of two months' treatment two fresh inoculations were made, one in a guinea-pig which was kept and lived for nine weeks, and then died from tuberculosis, and one in a guinea-pig which was killed on the fifteenth day. Tubercle bacilli were found in the lumbar glands, but not in the viscera. The glands were inflamed, but not caseating. The bacilli were few in number and small in size, thin, and not congregating into colonies. An attempt to cultivate them in serum did not succeed. Inoculations were made from patients taking up to twelve minims of creasote. The longest time that any guinea-pig lived was three months, which occurred on the inoculation of sputum from a patient who for the last three weeks of his sojourn in hospital had been taking ten minims of creasote three times daily—a longer period of life than in the case of inoculation of a sputum where the patient was taking twelve minims at the same rate. Further, the guinea-pig killed in the usual way on the fifteenth day, and inoculated from the sputum of the case taking ten minims, showed less lesion than the one inoculated with the sputum of the case taking twelve minims, in that the lumbar glands only were affected, while the spleen was definitely diseased in the other case. Still, one case can hardly be held to militate against the fact that in eleven cases it was abundantly proved that the greater the dose the greater was the diminution of the virulence of the poison.

It must not be supposed that the inoculations were successful in every case. In five cases, in all, abscesses formed at the seat of inoculation, with the result that in each case the guinea-pig succumbed far earlier—generally on the tenth day—than it would normally have done. Tubercle bacilli were found in the pus of the local abscess and in the popliteal glands, but not elsewhere in these cases. The condition of the spleen and blood showed that in these cases the guinea-pigs died from septicæmia.

The patients selected whose sputum was used, as in the case of the inhalations, were those who showed physical signs of early phthisis, which were rapidly spreading. In no case was the sputum from a very advanced form of the disease used. The sum of the results from inoculations of the sputum of patients taking creasote by the mouth goes to prove that the virulence of the organism is materially affected even when the dose is small; it must be admitted, however, that, if the guinea-pig was only kept long enough, despite the dose of creasote the animal always died from tubercle in the end. It cannot, therefore, be maintained that, when the creasote is given even in twelve minim doses, the bacillus is actually killed: its power is only rendered less harmful.

With regard to patients who were treated by the creasote chamber, of these I am sorry to say that only three cases can be cited. They were all cases resembling in their physical signs those already referred to. An inoculation was made on Feb. 9th from the sputum of a man who had been undergoing treatment by the chamber for two weeks previously. The guinea-pig inoculated died tuberculous on April 24th—i.e., it lived eleven weeks. A second inoculation from this patient was made a month later, the patient being

upon the same treatment, and the animal inoculated lived for fourteen weeks. Another inoculation was made on March 6th from a case already treated by this method for two months, and the animal died fifteen weeks later. A third inoculation was made from a fresh case, but unfortunately the guinea-pig died from septicæmia before any conclusion could be drawn.

These observations are incomplete in two points. I had not intended, at first, to make any inoculations from patients treated in the creasote chamber, and consequently I had to take the sputum at a time when the patients were in the middle or at the end of their treatment. I have, therefore, no experiment showing what the virulence of the sputum was before treatment was begun; and, secondly, the small number of the cases renders it impossible to draw a definite conclusion. I would, however, point out that in the first two inoculations from the same case there is a marked difference in the time the guinea-pigs lived—due, as I think, to the increase of the dose of creasote absorbed—and that the two cases treated in the creasote chamber give a better result in the length of time the guinea-pigs lived—namely, thirteen and fourteen weeks respectively—than did inoculations from patients taking creasote in any other way.

I should mention one or two supplementary experiments on the effect of the injection of creasote into animals already tuberculous. Two guinea-pigs were inoculated with tuberculous sputum in one leg; into the other leg ten minims of creasote were injected. This was followed by the injection of five minims twice a week. A third animal was injected with the tuberculous sputum alone as a control experiment. One guinea-pig succumbed at the end of a week, death being due to cellulitis from the irritation of the creasote. There was much inflammation at the seat of inoculation. The popliteal and inguinal glands were enlarged. Tubercle bacilli were found in the pus of the primary inoculation, but none in the glands. The second guinea-pig lived for sixteen days and then succumbed to cellulitis. Here, again, bacilli were found at the seat of inoculation, but not elsewhere, and there was absolutely no lesion of the spleen or liver, such as one would normally expect at the end of sixteen days. The control animal, killed on the sixteenth day, had extensive affection of the glands, spleen, and liver, and one or two spots in the lungs. These experiments were repeated twice afterwards, with the same results, only that the doses of creasote were smaller and the animals lived longer; in every instance, however, they succumbed to the irritation of the creasote setting up cellulitis. Again, a guinea-pig was injected with tuberculous sputum, and the disease allowed to take its course up to the fifteenth day. Creasote, at first in five minim doses, was then injected every other day into the opposite leg. In all the cases (four in number) so treated creasote had no effect whatever, and the animals succumbed on or about the twentieth day; when, however, the creasote injections were begun at the end of the first week it was possible, in three cases, to keep the animal alive for a month, and in two cases for six weeks; finally, the guinea-pigs died from cellulitis set up by the irritation of the creasote, post-mortem examination showing that the lesions had not extended beyond the limit of the lumbar glands.

Such experiments would seem to show conclusively that creasote has a definitely restraining effect on the poison of phthisis, provided the disease has not gone too far; and such a pathological experience is on a par with clinical evidence. With an advanced case of phthisis nothing curative can be done; taken in an early stage, it is possible, if not to cure, at any rate to prolong life.

To sum up. In the first series of cases—those that were taking creasote simply as an inhalation in addition to other drugs—no effect in the virulence of the disease was noted. In the second series, where creasote was administered by the mouth in doses varying from two to twelve minims three times a day, though when the smaller doses were given the diminution of the virulence was slight, yet when the larger amounts were reached there was an extremely marked diminution in virulence. In the third series it may be pointed out that the animals lived longer than in any of the other cases, though it is impossible to dogmatise from such a small number. Fourthly, creasote injected under the skin in tuberculous guinea-pigs, provided the disease was not too far advanced, had a markedly restraining effect. Repeated attempts were made to grow tubercle bacilli on serum from animals inoculated with tuberculous sputum from patients taking creasote in large doses either by the mouth or by means of the creasote chamber, but with no success.

In conclusion, I have to express my thanks to the senior staff at the Victoria Park Hospital for allowing me to use material from their cases for the purposes of this investigation, and in particular I am under an obligation to Dr. Arnold Chaplin for the use of sputum from his cases treated in the creasote chamber.

Duke-street, W.

NOTES ON A FATAL CASE OF POISONING BY SEWER AIR.

BY H. W. WEBBER, M.D., B.S., L.R.C.P. LOND., M.R.C.S. ENG.

A FEMALE CHILD aged four years was seen on July 27th, 1894. She had been ill for two days, the present complaint being of sore-throat and difficulty in breathing. Immediately previous to this she, in common with the other children of the family, had suffered from what the parents described as "mumps," no medical man being called in, and while recovering from this illness the present trouble appeared. The parents complained of constant bad smells being noticed at the back premises, and on inspection the origin of these was found to be in a small courtyard at the back of the house, in which the cesspit of the adjoining house was situated. This was furnished with an "inspection hole," the cover of which, a flat stone, fitted badly, and from which sewer air escaped. It was said that when the cesspit became overfull the sewage forced its way beneath the cover into the courtyard. The courtyard was small and dark, and almost surrounded by the back premises of this and the adjoining house, which formed an angle with it. In this house also bad smells were complained of in the bathroom, and several members of a large family had for some time past suffered from anæmia and occasional sore-throats. The child looked very anæmic and ill. On examination very little could be seen of the mucous membrane of the throat, the tonsils, faucial interspace, and pharynx being obscured by a collection of muco-pus, rendered frothy by mixture with air. As far as could be made out, however, no membrane was anywhere present. The tongue was thickly coated with creamy-white fur; purulent discharge oozed from the anterior nares. The submaxillary glands were only slightly enlarged. The temperature was 102° F. and the pulse 110. A mixture containing four minims of tincture of perchloride of iron was given every four hours, and a boracic solution was applied to the throat and nose. Under this treatment the above-noted condition of the throat cleared up in three days, leaving the child weak and profoundly anæmic; syncope threatened if she stood on her feet or sat upright for any length of time. A severe attack happened on the evening of Aug. 1st. She was treated with a mixture of ammonia and ether every three hours. On Aug. 2nd the surface of the body was cold, the temperature was 96°, the pulse was 130, feeble and of low tension, and the child was in the same low and anæmic condition. The tongue was clean, red, and moist at the tip, being brownish and rather dry on the dorsum. The heart sounds were feeble, the first sound differing little from the second; the cardiac impulse was visible and diffuse, being best felt in the sixth space one inch internal to the nipple. The patient complained of pain in the abdomen on that day. On examination it was found to be moderately full; the liver was uniformly enlarged, smooth, slightly tender, the edge rounded, and reaching downwards to a level of two inches above the umbilicus; the dulness commenced above at the sixth rib, and tenderness was complained of on percussion over the lower ribs. The spleen was not palpable and its dulness was not increased. The temperature was 98°. On Aug. 4th the patient lay in much the same state, the surface of the body being cold, the pulse 140, and the temperature 98°. She was kept wrapped in a warmed blanket, and was fed at frequent intervals with milk, beef-tea, and brandy, the ether and ammonia mixture being continued. On Aug. 7th the child passed no urine for more than twelve hours; a specimen of this when examined was of a pale yellow colour, acid, containing a moderate amount of lithates and about 8 per cent. of albumen (estimated by boiling). The edge of the liver now reached the level of the umbilicus; it was rounded and the surface of the viscus was smooth and swollen, distending the right hypochondriac and epigastric regions; it was tender. On Aug. 8th no urine was

passed for sixteen hours, and then only about half a pint, of similar character to that of the previous day. The child was given mercury with chalk (four grains) every four hours, as no motion had been passed for twenty-four hours; a solid motion of normal appearance resulted. She now lay apathetic, scarcely conscious, the body surface being cold. The pulse was 110, respiration 30, and the temperature 98°. On the 9th the bowels acted four times, each motion being small in amount and of normal appearance, but not offensive. The child was said to cry out and start in her sleep. On Aug. 10th there were six motions, semi-solid; about half a pint of urine was passed during the day, being lithatic and albuminous. There were inspiratory moist râles, with impairment of the percussion note and breath sounds at both bases. The liver formed quite a prominence in the upper half of the abdomen and was tender. The pulse was 140, very feeble. On Aug. 11th the child died; no necropsy was obtained. The case was attended in conjunction with my partner, Mr. A. E. Garrett.

Anæmia in slighter and more chronic forms is not uncommonly met with as a result of constant inhalation of vitiated air; the marked feature of this case was the profound degree of the anæmia. To cardiac failure from this cause I attributed the enlarged and tender liver, the congestion of the bases of the lungs, and the albuminuria and diminished secretion of urine.

Church-road, Rickmansworth.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

BONNET-PIN IN THE MALE URETHRA.

By J. H. SIMPSON, M.D. ABERD., M.R.C.S. ENG.,
MEDICAL OFFICER TO RUGBY HOSPITAL.

A MAN forty-five years of age was admitted into Rugby Hospital suffering from intense pain in his penis, which on examination was found to be erect; externally there could be felt a hard pin-like body running down the whole length of the urethra. He stated that he usually smoked in bed before getting up and kept by his side a bonnet-pin to clean out his pipe with, pushing it into the mattress at night, and that on getting up suddenly that morning the pin had run into his penis. He also said that he had tried to extract the pin by drawing back the penis over it, and had failed. I inserted into the urethra a fine pair of forceps, but could only grasp the shaft of the pin, as, in his attempts at extraction, the point had pierced the wall of the urethra and could be felt externally near the frenum. As I could not by pushing the pin further back free the point I forced it through to the outside of the penis, drew it out up to the head, then turned it backwards and pushed the head through the meatus, and so extracted the whole pin. Beyond a little soreness on micturition for a day or two no further trouble ensued.

Although I closely questioned the man he persisted in his statement as to the cause of the accident. The pin measured five inches in length, and the head, which was inserted first, measured nearly a quarter of an inch in diameter. The head appears in the illustration as a ring, but was really the ordinary solid circular glass bead.

Rugby.

ARREST IN DEVELOPMENT OF THE FŒTUS (EXOMPHALISMUS) COMPLICATING LABOUR.

By H. M. MACGILL, M.B., C.M. EDIN.

I WAS recently called to attend a married woman. On my arrival I found that the patient had been in labour for a short time, and that half an hour previously the midwife had discovered intestines protruding from the vagina. On examination I found that the whole vagina was filled with coils of small intestine, which evidently were connected with the fœtus and were not maternal. I was unable to feel any other presenting part. On getting my hand into the uterus I encountered a solid substance (which subsequently turned out to be the fœtal liver), and on pulling slightly on this a leg came within reach, and I was then able with some difficulty to complete delivery. The placenta was larger than usual. On examining the fœtus—which was stillborn—the following was noticeable. The left leg was altogether absent except for a minute tubercle close to the anus. The left innominate bone was also absent, as was the left half of the abdominal wall from Poupart's ligament to the diaphragm, thus allowing a free escape to the abdominal viscera. Above the diaphragm the child was perfectly formed and appeared to be at full term. The umbilical cord was inserted at its normal position at the free edge of the incomplete abdominal wall. The genitals appeared to be abnormal, but require further dissection. The patient is a primipara aged thirty and had been four years married, with a doubtful history of a miscarriage.

York-road, West Hartlepool.

CASE OF BELL'S FACIAL PARALYSIS IN AN INFANT.

By R. CLARK WAKEFIELD, M.D. BRUX., F.R.C.S. EDIN.

AN infant fourteen months of age was brought to me, his mother stating that he had been fretful and feverish on the previous day. He had two upper and two lower incisor teeth. When he cried his left eye remained widely open, his mouth being drawn to the right side; his left cheek was motionless and all expression was lost on that side of the face. For a week after the onset his left eyelid remained open when asleep; after that time he almost closed it when sleeping. His temperature was normal throughout the attack. He had no discharge from the left ear, and he apparently heard well, for he distinctly noticed a watch when it was held near the ear of the affected side. From the first appearance of the facial paralysis he could use his left arm and hand well, also his leg. I have been induced to send this short note on account, I believe, of the rarity of Bell's paralysis in a child so young without any apparent cause, there being no history of injury, total absence of any ear trouble, no infantile paralysis, no syphilitic history, or any cause except the attack of one day's illness, probably arising from a slight cold. Under the interrupted current for a few minutes daily the face became almost well; the eyelid, however, does not quite close when he cries.

Lancaster-road, W.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KING'S COLLEGE HOSPITAL.

RUPTURE OF THE VAS DEFERENS; CASTRATION; REMARKS.

(Under the care of Mr. ALBERT CARLESS.)

THE statement with which the article by Mr. Birkett on Rupture of the Vas Deferens in "Holmes's System of Surgery" opens is as true to-day as it was when written: "Injuries of the excretory duct of the testis, or vas deferens, are not noticed by surgical authors." With the exception

of this case recorded by Mr. Carless and another published in the *Edinburgh Medical Journal* by Dr. Patrick Heron Watson,[1] where a condition of neuralgia testis was the result of rupture of the vas deferens in the scrotum, due to a machinery accident, we have no recollection of any addition to the number of those given by Hilton as quoted by Mr. Birkett. The intra-abdominal rupture is, of course, much the more serious. To the symptoms mentioned by Mr. Carless there are added in Mr. Birkett's article: "Gradually increasing pain, which extends over the lower abdomen, accompanied with more or less pyrexia."

A strong, healthy looking man forty-seven years of age presented himself as an out-patient at King's College Hospital early in 1891 with the following history. Whilst lifting a heavy piano a few weeks previously with another man the piano slipped from the grasp of the latter, its whole weight falling upon the patient, who felt at once a severe pain in the left side of the scrotum and in the left testicle, which became swollen and tender. No special notice was taken of this as the pain passed away, but on attempting intercourse with his wife a few days later the most severe pain was again experienced in the testicle, which also became enlarged, and blood was found to have passed per urethram. On examination the epididymis was observed to be large and tender, the most marked swelling being in the neighbourhood of the globus minor, the testicle itself being of normal size and shape. Sexual intercourse was then omitted for some months, and at the end of that time, when attempted, was accompanied by great and sickening pain, with enlargement of the testicle. The patient was lost sight of for three years, remaining in the same condition; and in January, 1894, a chronic thickening of the epididymis was noted on an examination, the testicle being still of normal size and consistency. There was also a definite varicocele, and a good deal of dragging pain was experienced. Sexual connexion had been but little attempted during the interval, but was still excessively painful. Evidently the case was one of rupture of the vas deferens, and castration was recommended. On April 23rd last the left testicle was removed through an incision placed over the situation of the spermatic cord and not encroaching on the scrotum. The operation was a very simple one, as no adhesions existed, the cord being tied with silk in several pieces and divided close to the external abdominal ring. The wound healed by first intention in eight days, and the patient left the hospital in twelve days.

Remarks by Mr. CARLESS.—On examining the specimen the vas deferens was found somewhat thickened, except at one spot, just above the head of the epididymis, where the size of the tube was distinctly diminished. A hypodermic syringe filled with fluid mercury was inserted into the proximal divided end of the vas and tied; on forcing down the piston mercury entered the tube, distended it as far as this spot, and although sufficient force was employed to rupture the vas close to the syringe none passed beyond the constriction. Without doubt the vas had been here ruptured, and the subsequent cicatrisation had caused the total occlusion of the tube. The testicle was normal in size and from the exterior looked healthy, but on section a focus of softening and degeneration was found, spheroidal in shape and about two centimetres in diameter, placed in the midst of the body and surrounded partly by apparently normal testicular substance, partly by indurated and sclerosed tissue. This has evidently the cause of the increased pain experienced shortly before the operation. On microscopic examination, which was conducted by Dr. Dalton, this softened area was found to consist of round cells, which were clearly infiltrating some tissue in which only traces of the seminiferous tubes could be made out. The cells were mostly necrotic, some definitely fatty. Between the individual cells there were no fibrillæ, but between the masses of cells there were some fibrous bands with well-formed bloodvessels. In the centre of the mass these small cells were seen to be breaking down into an almost fluid substance, although no actual pus or definite abscess cavity could be recognised. There was no appearance of caseation, and the tissue looked neither like malignant disease nor like a gumma. The tunica albuginea was much thickened, and the testicular substance examined showed certain spaces lined with small roundish cells, not at all resembling those usually met with in the tubules, although these spaces probably represented these structures. The whole specimen suggested a subacute interstitial inflammation due to the tension of retained secretion, which had resulted in a chronic sclerosis of part of the organ, the effect being most marked at the one focus. It is exceedingly interesting to note that there was no true pus in this specimen, although the tissue was of that embryonic type which precedes its formation. The absence of micro-organisms explains this occurrence, and the observation is a valuable one as once again demonstrating the need of the tissue-liquefying property of bacteria and their products to determine suppuration. Rupture of the vas deferens is an exceedingly uncommon accident, and, indeed, the above case is almost unique. Three illustrations of this lesion occurring in the practice of the late Mr. Hilton are recorded by Mr. Birkett in "Holmes's System of Surgery." In all of them the accident resulted from some sudden wrench or strain, and the vas seems to have given way within the abdomen close to the spot where it is crossed by the ureter. In each case there was sudden pain followed in a few minutes by a flow of blood from the urethra, the urine, however, after withdrawal by a catheter being free from it. The testes subsequently became swollen and tender, and in two of the cases atrophy to a considerable extent followed. As to the mechanism whereby such a firm structure as the vas deferens is torn across one can say nothing. Mr. Curling found that in the cadaver a weight of fifteen pounds was required to rupture it even when isolated from its neighbouring structures, and certainly the violence must be both sudden and of a curious character which would produce such a lesion, and the more so in this case since the spermatic vessels were evidently uninjured. When these are torn or twisted necrosis of the testis results, and atrophy follows even if suppuration from auto-infection does not occur. This fact has been often demonstrated, both in practice and also by Chauveau's well-known experiments on the testes of horses. Here, however, is an illustration proving that when the vas deferens is alone divided atrophy of the testis need not necessarily result, although, probably, if the case had been allowed to go on long enough, granular degeneration would have ensued, resulting in a sure, though long delayed, atrophic condition of the organ. The specimen has been presented to the museum of the Royal College of Surgeons of England.

[1] Quoted by Mr. Jacobson in "Diseases of the Male Organs of Generation."

CUMBERLAND INFIRMARY, CARLISLE.

TEN CONSECUTIVE CASES OF OPERATION FOR DISEASES OF THE THYROID GLAND.

(Under the care of Dr. LEDIARD.)

IT is somewhat difficult to account for the onset of dyspnœa in some of these cases. It is evident, however, that pressure on the trachea, producing changes in its shape and structure, is not sufficient of itself to cause dyspnœa, unless it is excessive, as is shown by the condition of the trachea in Case 2, where it was much flattened and compressed; yet the patient apparently made no complaint of shortness of breath, although stridor was present. Again, in Case 8, although the dyspnœa was severe at times and stridor was marked, no change was noted in the trachea. We do not think that surgeons who have had a large experience in the treatment of thyroid enlargements will agree with the rule which Dr. Finley recommends as to operation. Operation is not without risk, as is shown by this list of cases, where 1 in 10 died, and some suppurated; moreover, local and general treatment is not infrequently successful in curing enlargements due to hypertrophy. For the notes of these cases we are indebted to Dr. Finley, house surgeon.

CASE 1.—A young woman aged twenty-five was admitted to hospital on Jan. 11th, 1893. She suffered from symptoms of simple gastric ulcer. This patient had a large oval swelling over the thyroid, free from the larynx; she had noticed it for six or seven years; it was gradually increasing in size. On Feb. 8th the tumour was removed through a median incision. The growth was found to be solid, growing from the middle lobe; it contained one small cyst; a horsehair drain was used, and on March 1st she was discharged well.

CASE 2.—A girl aged fifteen was admitted to hospital on Sept. 6th, 1893. She had had a swelling in the neck for twelve years, which had been growing larger lately. She now had considerable stridor, but no dyspnœa. The growth appeared to be solid and to affect mainly the right lobe of the thyroid. The pupils were equal. There were signs of

consolidation at the apex of the left lung. On Sept. 8th the right lobe was excised with the tumour through a median incision, and found to be growing round the trachea, which was much flattened and compressed. The usual dressing was applied, and a drainage-tube inserted. On Sept. 10th the temperature was 104° F. This patient developed double pneumonia, which proved fatal on the 12th.

CASE 3.—A young woman aged nineteen was admitted to hospital on Aug. 2nd, 1893. She had had swelling in the neck for seventeen years and had noticed a considerable increase in its size during the last month. This patient had dyspnœa on exertion, but no stridor. The swelling involved the right lobe mainly, but the left lobe also to some extent. On Aug. 4th the enlarged right lobe, with the tumour, was removed through a median incision. The left lobe, although enlarged, was not interfered with. The trachea was found to be very small and evidently flattened. She was discharged well on Sept. 6th. A brother of the patient was operated upon for removal of a cystic goitre on Aug. 28th, 1894.

CASE 4.—A young woman aged twenty-four was admitted to hospital on Nov. 2nd, 1893. The family history is good, excepting that her father has an epithelioma of the nose. She had noticed a swelling in the neck for four years, which began on the right side and was mainly on that side. During the previous week she had had difficulty in swallowing and three attacks of serious difficulty in breathing. She had always had some dyspnœa. She was very anæmic and had some bronchitis. On Nov. 3rd the tumour and the right lobe were excised through a median incision. There was considerable delay in healing, the wound suppurating freely, but she left well on the 29th.

CASE 5.—A patient aged twenty was admitted to hospital on Dec. 13th, 1893. She was a married woman with one child six months old. She had a swelling on the left side of the neck, which had been noticed for five years. There had been some difficulty in breathing for the last two months. The tumour felt hard. On Dec. 15th a large tumour growing mainly from the central lobe was excised. The growth on section was found to be very much degenerated, containing many cysts, the walls of which were of very varying thickness; the inner surface of some of the cysts was almost villous in appearance. She left the hospital well on Jan. 3rd, 1894.

CASE 6.—A young woman aged twenty-five was admitted to hospital on Jan. 3rd, 1894. This patient had a swelling of the neck; it was equal on the two sides below, but on the left side above there was what appeared to be a prolongation of the left lobe upwards, which was the size of a walnut. The whole mass was soft, but not cystic to the touch. She had had stridor lately. Her mother had goitre. On Jan. 22nd a median incision was made, and the tumour was found to be very closely adherent to the trachea on the left side. On section it was found to have undergone considerable cystic degeneration; in some spots there were small effusions of blood, and in others small masses of a cretaceous matter. The drainage-tube was removed on Jan. 25th, and she was discharged well on Feb. 14th.

CASE 7.—A girl aged sixteen was admitted to hospital on March 21st, 1894. She had had a swelling in the neck for three years. The swelling was rather more marked on the left than on the right side of the neck, and felt hard. On the 23rd a median incision was made, and the tumour was found to reach much higher up the neck than usual, and to be pressing on the trachea a good deal. On the 24th she was menstruating, and there was a good deal of suppuration in the wound. She was discharged well on April 18th.

CASE 8.—A girl aged nineteen was admitted to hospital on March 25th, 1894. She had noticed a swelling for two years, had had several attacks of dyspnœa, and was now very short of breath. She had also considerable stridor. The tumour was very soft and was situated lower down in the neck than usual. It was mainly on the right side, and was evidently firmly fixed to the trachea. On March 26th a median incision was made, as in the other cases. The enlargement was found to involve both sides, but the right half only was removed. The growth was found to be made up of almost innumerable cysts. The patient was discharged well on April 18th.

CASE 9.—A married woman aged thirty-six was admitted to hospital on April 7th, 1894. She had a swelling as large as a small cocoanut on the right side of the neck. She had had it for twenty-five years. Her mother and a sister have somewhat similar swellings in the neck. Her two children have not. The swelling was entirely on the right side and obviously attached to the trachea. Her voice was always weak. On April 11th the tumour was easily turned out of the thyroid with the finger through a median incision. Some large veins were accidentally torn, and the bleeding was extremely troublesome. The interior of the growth was found to be invaded by a series of radiating striæ, which on microscopical examination were found to consist of a fibroid degeneration. She was discharged well on April 25th.

CASE 10.—A young man aged twenty-one was admitted to hospital on May 16th, 1894. Some operation for removal of a goitre had been performed in November, 1890. He had had slight enlargement in the middle line, gradually increasing, for the last five months. The present swelling was mainly below, and the old scar was to the right of, the middle line. On May 18th a portion of the left lobe was removed with scissors through the usual median incision; it was very adherent behind to the trachea and reached for some distance below and behind the sternum. He was discharged well on May 30th.

Remarks by Dr. FINLEY.—The majority of the cases recorded above came under treatment on account of difficulty in breathing, although in no one case was this so serious as in some of the cases recorded in THE LANCET[1]; and this is no longer waited for as the indication for operating. In those cases which had experienced any difficulty in breathing this was found to be of sudden onset, generally a long time after the tumour had been first noticed; so that now, whenever any case is found to have any enlargement at all, the patient is advised to submit to operation. This is found to be amply justified, for operation always relieved any symptoms of dyspnœa, although, as the deformity of the trachea met with in some cases would lead one to expect, not completely putting a stop to the stridor, which generally persisted for some days in those cases in which it was present before operation. Moreover, the operation would in almost every case be very much easier than that of tracheotomy, on account of the almost constant deformity or displacement of the trachea. The operation needs no detailed description. The enlarged lobe, or isthmus, is exposed by a median incision and removed; in the case of cysts the part of the gland in which this is growing is sometimes resected and sometimes removed, according to the amount of gland tissue over the cyst. The substance of the gland can be freely cut through with scissors without fear of hæmorrhage; in no one case was it found necessary to ligature any part of the gland. The hæmorrhage, indeed, was very trivial in all the cases except Case 9, in which the growth, of much longer duration than usual, had established extremely dense adhesions, in separating which some large veins were torn and were for a time troublesome. All the cases were dressed with very firm, sometimes elastic, bandages, and a drainage-tube was generally left in for twenty-four hours or so. No precaution was taken in the last eight cases to keep the head and neck at rest. It was found, as has already been pointed out by Mr. C. J. Symonds, that the patients, if allowed to sit up about the fourth or fifth day, did quite as well as when kept quiet with sandbags, &c., for a week or more. They were allowed to get up about the eighth to fourteenth days. The majority of the wounds healed directly on the removal of the drainage-tube. A few of the patients had some slight amount of suppuration in the track of the drainage-tube. It was noticed that all the patients, whether there was any suppuration or not, had a temperature of from 101° to 103° F., with a gradual fall to normal, the first rise occurring on the second day. Case 10 is the only one occurring in Dr. Lediard's practice during the last ten or twelve years in which there has been any suspicion of recurrence; the enlarged lobe was removed although it had not caused any return of symptoms.

[1] THE LANCET, Jan. 24th and April 4th, 1891.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.—On Sept. 14th a meeting of the Yorkshire branch of the Incorporated Society of Medical Officers of Health was held at the Crescent Hotel, Ilkley, under the chairmanship of the President, Dr. J. Wright Mason of Hull, medical officer of health of the Kingston-upon-Hull Union District. Dr. Wright delivered a very timely address on the Relation of the Inspector of Nuisances to the Medical Officer of Health.

Reviews and Notices of Books.

An Illustrated Dictionary of Medicine, Biology, and Allied Sciences. By GEORGE M. GOULD, M.D., Author of "The Student's Medical Dictionary" and Editor of the *Medical News* (Philadelphia). London: Baillière, Tindall, and Cox. Philadelphia: P. Blakiston, Son, and Co. 1894.

AMERICA is certainly the land of lexicographers. We recently reviewed the colossal medical dictionary edited by Dr. Frank P. Foster of New York, and published in this country by Messrs. Sampson Low and Co. Now we have from Dr. George Gould of Philadelphia another remarkably complete work of a similar character, though more professedly a dictionary and the labour of one author than the work issued under Dr. Foster's name, which was rather a magnificently compiled and edited encyclopædia.

The dictionary now before us gives the pronunciation, accentuation, and derivation, as well as the definition or verbal paraphrase, of all the terms used in medicine, obstetric medicine, forensic medicine, surgery, pathology, materia medica, and the special branches of these wide-ranging sciences; of all those used in chemistry, anatomy, physiology, and psychology—these being what we may term the ancillary medical sciences *par excellence;* and of all those used in such allied sciences as electricity, the different divisions of theoretical and experimental physics, botany, and microscopy. This is a very large programme, and when we say that in executing it Dr. Gould has fulfilled his own conscientious endeavour "to give the greatest possible amount of lexicographic and encyclopædic knowledge within the limits of a single volume, condensed as much as is consistent with clearness, and so arranged as to furnish the student and worker with concise, accurate, and useful definitions," we are allotting to him a high meed of praise. In particular, the large amount of tabular matter will be found useful, enabling the consulting reader to correlate his knowledge and supplement his comprehension by running his eye down the page at which the dictionary is open, without having to hunt up other words on other pages at the expense of his time and patience. The numerous tables form a feature in Dr. Gould's dictionary that any reader may find useful, but to those engaged in literary work they must prove very valuable; and this the more because the tables have been most carefully prepared, are exhaustive in their information, and are frequently beautifully illustrated. Some of them are quite new. For instance, if we mistake not, a tabular arrangement of eponymic diseases, or diseases which are colloquially associated with the name of the observer who has been credited with the earliest recognition of the affection, is a novelty; and those of us who have suffered under the pedantic, if not unjustifiable, use of this nomenclature—which is no better than slang, though it may have its outcome from the most praiseworthy respect for scientific pioneers—will be grateful for a vocabulary of synonyms. It is not given to all to remember exactly the ground covered by the phrases Cruveilhier's Palsy, Alibert's Keloid, Bergeron's, Begbie's, Kaposi's, or von Rokitansky's Disease; yet it is more than occasionally the habit of many writers to employ this method of nomenclature as though the understanding of it were an integral part of medical education. Dr. Gould also supplies a table or list of operations arranged alphabetically under the head of the surgeons who first performed them, and of chemical tests under the names of their inventors, and these are valuable for exactly similar reasons. An alphabetical list of all the bacteria as yet identified, with the name of the discoverer and brief descriptions of their quality and behaviour, gives evidence of great care and labour in its preparation, and will be found by many useful for reference. The same may be said of the tables dealing with "stains," under which heading will be found a small compendium of bacteriological methods; while under "bones" we have a succinct little work on osteology. Many of these tables are illustrated, and wherever this is the case we are able to say that the work has been splendidly done. The illustrations of tumours, after Woodhead and Ziegler, are first-class examples of black-and-white work, and the same may be said of the anatomical diagrams, though here it is to be regretted that a uniform scale has not been adopted. We recognise that a dictionary is a book of reference and not a text-book, but still it might be misleading to find the bones of the forearm and those of the wrist with the hand on one page represented as exactly the same length; while on the previous page the span of the greater cornua of the hyoid bone would certainly reach from nipple to nipple on the thorax represented two lines below it. To those who know, such things are no possible source of error, but everybody does not know who uses a dictionary, especially a dictionary of so wide a scope as this. We quite recognise the difficulty, however, that such drawing to scale would entail.

The inclusion of the many thousands of new words and terms that have been introduced into medicine during the last few years, marked as they have been by unparalleled scientific activity and progress, has, doubtless, entailed upon Dr. Gould and a large staff of assistants much arduous work; and that the work has been well done is proved to our satisfaction by the fact that with a big selection of reference books by our side, which we have relentlessly used with the view of bringing to light mistakes or omissions, we have been unable to convict the new dictionary of any save the most trivial deficiencies. In the table of degrees there are several errors, but only one worth noting: F.R.S. is described as "Fellow of the Royal Society" and F.R.S L. as "Fellow of the Royal Society of London." It is not excusable for Americans to be ignorant that F.R.S. is the affix borne by the members of the most distinguished scientific association in the world—the Royal Society of London. The unsavoury word *Urning* is of German derivation in this way only—a German was the first to coin it from the Greek, in allusion to Uranos of Plato's Symposium; and the occurrence of the word naturally led us to look for its opposite, *Dioning*, and this word is absent. The English equivalent for *Boulimia* (bulimy) is not given, although the translation appears in standard English dictionaries and has been admitted by us into our columns more than once. *Pleiomorphic* is so spelt in the dictionary, with a cross reference from *Pleomorphic*, yet the author in employing the word in a footnote spells it without its *i*. *Sacrache*, a word used by the late Dr. Matthews Duncan for sacral pain in the gravid woman, is rejected. But, as we have already said, we have not been able to find a single omission of importance, while a large number of obsolete or obsolescent terms have found a place. And this is right, for many a book in some of its phraseology and teaching a little out of date is in general respects well worth reading; yet often the reader is unable to derive full benefit from such books through failure to exactly understand all that is implied by the condition to which the writer has given an old-world name. Avoiding a natural desire to quarrel with the author on the ever-green question of the propriety and logic of American spelling, we have only to congratulate Dr. Gould, his collaborators,—Drs. Dolley, Dorland, Eshner, Green, Wilder, and others,—and his publishers on the thoroughly satisfactory carrying out of a highly valuable piece of work.

A Practical Handbook of Midwifery. By FRANCIS W. NICOL HAULTAIN, M.D., F.R.C.P. Edin., Lecturer on Midwifery, Edinburgh School of Medicine, Obstetrician, Royal Public Dispensary, Edinburgh. Illustrated. London: The Scientific Press, Limited. 1894.

DR. HAULTAIN has published this little work at the request of many former pupils. It is intended mainly to be of prac-

tical assistance to the busy practitioner, and also for the student as a summary of the chief points of practical importance in obstetrics. We observe it to be stated simply that the frequency of the fœtal heart sounds is diminished during a pain. This is, of course, true when the pain is at its height, but at the onset of the pain the heart is generally quickened. As regards the height to which the uterus rises in the earlier months we should say that at the twentieth week the fundus is more generally at or very near the level of the umbilicus rather than midway between the umbilicus and pubes, as here stated; indeed, the latter position closely corresponds with the one correctly given by the author for the uterus at the end of the fourth month—namely, three fingers' breadth above the pubes. In describing the treatment required in certain cases of retroversion of the gravid uterus the more vigorous measures that may be employed are clearly given, but we see no mention of the milder method which is generally as effectual—that is to say, merely keeping the patient in bed and having the catheter passed at regular intervals. After a few days or less of this treatment the uterus generally rights itself. We observe that Dr. Haultain recommends the axis-traction forceps as suitable for all cases where the use of forceps is indicated. He considers that the advantages of this instrument are that traction can be made in the axis of the brim, that excessive compression of the head is avoided, that the normal mechanism is not hindered, for internal rotation may take place during traction, and, finally, that while the traction power is greater there is less tendency for the instrument to slip. This latter point, we may add, is particularly true as regards face presentations. In such cases the ordinary forceps are very apt to slip. In the difficult matter of deciding the date to which pregnancy has advanced with a view to the induction of labour the author relies on measuring the length of the fœtus in utero, or, rather, measuring with callipers from the upper border of the symphysis pubis to the fundus. The measurement so obtained in inches may be taken as representing the duration of pregnancy in lunar months. We observe that the mortality of Cæsarean section is given as 9 per cent., which seems to us much too low if it is intended to represent the average risk incurred in this operation. The book contains an enormous mass of facts, and its successive chapters are almost a series of tables. We should think it would be very useful to the student in enabling him to take a rapid glance at the whole subject just before examination. It should not be used, and we feel sure that the author does not intend it to be used, as a substitute for some one of the larger works.

Hygiene. By Professor J. LANE NOTTER, M.D., and Surgeon-Captain R. H. FIRTH, Army Medical Staff. Longmans' Elementary Science Manuals. 1894.

THIS book is undoubtedly a good one; it is well arranged, well written, and excellently illustrated. We have no hesitation in recommending it. It has been compiled at the request of the publishers to form one of their "Elementary Science Manuals," and is written in language suitable for both non-professional and professional readers. The book is not intended as a substitute for the regular and more advanced books which discuss the subject of hygiene in its many bearings, but rather as an introductory manual for the use of junior students or others, preparatory to a more extended and practical study of public health work. We cannot help thinking that in an elementary work of this nature many of the complicated formulæ, which are only of service to the sanitary expert, and some of the physical and chemical laws might well have been omitted. We look in vain for a digest of the present laws regarding sanitary matters, such an omission is surely a mistake. The laws which are in force for the preservation of public health are as a rule little understood by the public because they are not served up in an intelligible and succinct form. We would suggest that, in future editions of this work, the substance of the different health acts may be set forth in simple language; such a chapter will be a boon to many of those for whom this manual is intended. We notice that the licence of coining words has been occasionally indulged in. More careful proof-reading would also have done away with the few errors in grammar and with the compositors' mistakes which we notice. The work is divided into ten chapters, which treat respectively of the "Air"; of "Water"; of "Food"; of "Soils, Sites, and Buildings"; of "The Removal and Disposal of Refuse and Excreta"; of "Personal Hygiene"; of "Infection and Disinfection"; of "Parasites"; of "Climate and Weather"; and of "Vital Statistics." The chapters on the air, on sites, soils, and buildings, and on parasites appear to us to be specially good. The book is provided with an ample index. For its size we consider it the best work on the subject which has been published in this country. We congratulate the joint authors on its appearance.

The Case against Diggleism at the London School Board. London: Alexander and Shepheard. 1894.

THIS book has been published for the Progressive School Board Election Council, and has been sent to us for review. The ground covered by it is so extensive—ranging from religious controversy to drainage—that material requiring the consideration of all classes is included in it. With the religious question, the importance of which we do not fail to recognise, it is not for us to deal, and we do not propose to deal with it. There are, however, other matters dealt with which are more germane to our own sphere, and, in so far as this publication attempts to establish the neglect of the Board in matters sanitary, we are quite at one with its authors. These may be divided into four classes: (1) insufficient space for the number of scholars; (2) insufficient heating in cold weather; (3) the question of physical education; and (4) defective drainage. Of all these the most urgent is undoubtedly the last. Here any neglect is quite unpardonable, as it may be the cause of epidemic disease, and any delay or parsimony exhibited in the notification of such errors is the most "extravagant economy," to use the term employed by the authors. The questions of school accommodation, swimming-baths, and heating apparatus (of which we consider the last likewise as the most urgent item) are also of great importance, but we cannot so enthusiastically espouse the cause of the authors in these matters as in the question of drainage, inasmuch as we recognise the value of a very carefully supervised expenditure of money in this new political departure of free education. We believe that every civilised, not to say Christian, country has a primary duty towards the young, the enfeebled, and the old among its least fortunate citizens; and that these will receive the increasing attention which they deserve, and to which they are entitled, we do not doubt. But we must not forget that measures to these ends have a normal as well as a culpable slowness of realisation. They are also subject to efforts at an abnormal rapidity of realisation. Culpable slowness and abnormal rapidity are the extremes. Here also we fear we may be considered as somewhat Laodicean in our attitude by extremists. Over the portals of every growing beneficent institution we would inscribe the motto, *Festina lente*. We do not underrate the uses of enthusiasm or praise the spirit of reaction. The parallelogram of forces will strike a safe diagonal if moderate men of all parties combine to crush extremists of both types. To the compulsory education of the young the country is irrevocably committed, and our influence will be thrown into that scale which is calculated to promote this cause most efficiently, most rationally, and

most economically; but an economy which is purchased at the expense of efficiency, health, and toleration is one with which the scientific mind can have little sympathy, because it is irrational in conception and calculated to be disastrous in result.

The book before us is interesting and instructive; it is also an astute electioneering pamphlet. The section dealing with "The Board and Labour" imports the political element into the consideration of a subject which has claims upon our attention apart from both politics and religion, but which cannot be said to be altogether disconnected with either. We can only trust that the education of our youth will be inspired in the one direction by reverence, in the other by justice, and in both by reason and the fruits of reason—patience and toleration.

Outlines of Medical Treatment. By SAMUEL FENWICK, M.D., F.R.C.P., Physician to the London Hospital; and W. SOLTAU FENWICK, M.D., B.S. Lond., M.R.C.P., Physician to Out-patients to the Evelina Hospital for Sick Children, Medical Tutor to the London Hospital. Fourth Edition, enlarged and revised. London: J. & A. Churchill. 1894.

THIS book having reached its fourth edition there is really no need to say much in regard to it. But we should fail in our duty if we did not add that it has undergone a vast improvement since the first edition was published. Such additions have been made to the present one as to keep it abreast with the progress which has taken place in medical treatment since the last edition was published. The information is always to the point, well arranged, and judiciously selected, and the work is a fitting companion to the well-known and popular one on "Medical Diagnosis" from the same source. The authors, in view of the increasing importance of electricity in the diagnosis and treatment of disease, have added a special chapter on that subject, for which they express their obligations to Dr. H. Lewis Jones, medical officer in charge of the electrical department of St. Bartholomew's Hospital.

LIBRARY TABLE.

Essentials of Diseases of the Eye. By ED. JACKSON, M.D. *Nose and Throat.* By E. B. GLEASON, M.D. Being Part I. and Part II. of W. B. Saunders' "Question-Compends." Philadelphia: W. B. Saunders. 1894.—We are not disposed to approve of teaching by question and answer, since the student is apt to think that no other reply can be given than that before him, and consequently learns it by heart. Moreover, it is rather a dry and uninteresting method of acquiring a knowledge of the subjects under consideration. For those who prefer to learn a definite answer to a given question the little book before us will prove serviceable. It is at least accurate, and, whilst the questions are well selected, the answers are not of inordinate length.

The Primer of Hygiene, by ERNEST S. REYNOLDS, M.D. Lond., is the newest of Macmillan and Co.'s well-known and highly-esteemed science primers, which are published under the joint editorship of Professors Huxley, Roscoe, and Balfour Stewart. It contains information in a style suitable for higher grade school children—lucid, concise, interesting, and useful. The subject has in our elementary schools largely superseded the dry bones of physiology, and a consequence has been a demand for hygienic knowledge in a form suitable for the class-room. This primer will fulfil the purpose, and the matter it contains will amply satisfy the requirements of the South Kensington examinations. The appendix on Medical and Surgical Emergencies, and the hints on Sick Nursing, are useful for reference. No member of this excellent series can claim to rank higher in excellency than the "Primer of Hygiene."

A Healthy Home. By FRANCIS VACHER, F.R.C.S. Ed., Medical Officer for Cheshire. London: The *Sanitary Record* Office.—In a similar vein, but dealing with subjects more as they concern adults endeavouring to decide on practical issues, hygiene again forms the subject of a very practical volume. The author is a practical man, and he has endeavoured to set forth the lessons which his experience as a public lecturer has led him to believe are most useful to householders. The questions put to the lecturer at the close of the lecture indicate broadly in what direction light is required. The book contains information regarding the points of position, materials, construction, and design which require to be taken into consideration in the erection of houses. The modes of heating, lighting, and ventilating are discussed, and the water-supply is also dealt with. Perhaps the most useful chapter in the book is that on sanitary requisites, upon which the author is entitled to speak with much authority. The obligations of householder and sanitary authority form the concluding chapter and one which will be read with much interest by both parties.

The Insurance File. London: W. J. West. Page and Pratt.—The third issue of this book presents some new features from the publisher's point of view. It is an example of a book entirely reproduced by photographic process, so that we have placed before us the form and appearance of the original documents. It forms a pocket cyclopædia of information upon the insurance business of the United Kingdom.

The Insurance Blue-Book and Guide. London: Champness and Co.—This also is a handy book of reference on the same subject, containing a large amount of information useful to insurance officials, brokers' agents, bankers, financiers, and their clients. For twenty-one years the book has served the purpose of placing before the public such information relating to insurance companies as would be most likely to be a guide in making a safe and profitable insurance investment. It comprises details on life assurance, fire insurance, general and other insurances, and a brief summary of the insurance law.

Wood-working Positions. By W. NELSON, Organiser, Manual Instruction, Manchester School Board. Drawn in Pen and Ink. By HERBERT COLE. London: Chapman and Hall, Limited. 1893.—This series of illustrations, with short letter-press elucidation, combines instruction by sight and hearing, for the written word, though it gains access to the intelligence through the eye, must be regarded as sound metaphor. This is the nearest approach to that perfection of instruction which, after inculcating theory, sets the student to actual practice. There is a short introductory preface, which states some of the elementary conditions of healthy exercise. The illustrations are excellent in outline, perspective, and execution. We consider that these drawings, with annexed explanations, are calculated to be of great service in the instruction of our artisan youth, and adapted to foster excellence in workmanship, for which the British working man of the better kind has always been justly valued.

New Inventions.

A PROTECTOR FOR CLINICAL THERMOMETERS.

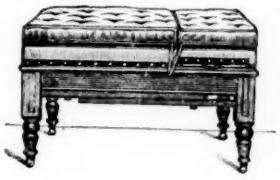
MR. C. M. PAGE has forwarded us a specimen of a case or protector for the clinical thermometer which we can understand will be of considerable practical value. The case consists simply of a tube of "white metal" about 3½ in. long, upon either end of which a small cap fits. One end of the tube is open; the other is closed below, but perforated on either side, the opening being roughly of the size of the

bulb of the ordinary clinical thermometer. When it is required to "take a temperature," only one cap—that covering the perforated end—need be removed, as the openings in the tube will allow the bulb to come into contact with the skin or mucous membrane of the patient, the point being that the instrument is always protected by its sheath. Owing to the large exposure of mercury, registration is in no degree delayed, while, all strain being borne by the case, it is rendered practically impossible for the thermometer to be broken by even the most violent or delirious patients. It is readily and easily cleansed and disinfected, and may be placed in a child's mouth or the mouth of a nervous, fidgety patient without danger of being bitten. The bulb *could* be got at by the patient's teeth, but not without difficulty, and certainly would never be crushed inadvertently. Those who know the great loss annually incurred in our hospitals, especially in our fever and consumption hospitals, through the accidental breakage of clinical thermometers, will appreciate the fact that any invention tending to obviate loss through damage done to these institutions alone is worthy of serious consideration. The manufacturers, Messrs. Robt. G. Ivey and Co., 12 and 13, Laurence Poutney-lane, E.C., are prepared to supply the case in silver, aluminium, or any other suitable metal, and in three different sizes. The specimen in "white metal" submitted to us was priced at 1*s.* 6*d.*

AN IMPROVED CONSULTING-ROOM COUCH.

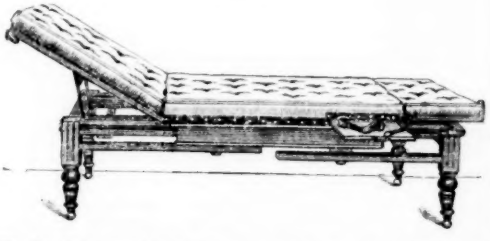
THERE are probably many general practitioners who, for want of space in their consulting-rooms, are unable to accommodate a full-sized gynæcological or surgical couch, and yet would be glad to possess one, if only it could be made to occupy half the usual amount of space when not in actual use. The figures illustrate a couch I have devised for this purpose and which I have found to answer admirably. When closed (Fig. 1) it measures 36 in. by 23 in., and forms

FIG. 1.



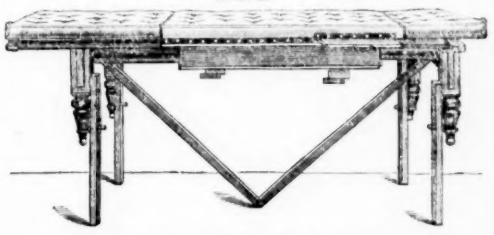
a useful seat unlikely to be an inconvenience in the smallest consulting-room. When required for use it can in a very few seconds, by a mechanism somewhat similar to that of an ordinary dining table, be extended to form a couch 72 in. by 23 in. and 21 in. high, a much more useful height for the manipulator than the usual height of 18 in. or 19 in. (Fig. 2).

FIG. 2.



The head is capable of being raised to any angle, and near the foot on the right-hand side of the couch a draw tray is provided, which will be found useful for instruments during an examination or dressing. The couch is further capable of being converted into a gynæcological or operating table (Fig. 3) by lowering the long legs and fixing them to the short legs by means of thumbscrews, the table being rendered perfectly rigid by the struts. It has been excellently made

FIG. 3.



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Fairhazel Gardens, South Hampstead, N.W.

NEW SYSTEM OF MEDICAL BOOKKEEPING.

I WISH to be allowed to draw the attention of the profession to a very convenient system of medical bookkeeping devised by me and published by Mr. H. Silverlock of 92, Blackfriars-road. The book is of convenient size (twelve by nine inches), and combines in one—list, day book, ledger, cash and expenses books, annual income, and obstetric register. Each book is arranged to last six years, by which limitation a great deal of time, generally wasted in repeatedly looking over old accounts, is saved. It is a generally recognised fact with all those experienced in medical bookkeeping that in books lasting over a long period of time innumerable accounts gradually accumulate, each of which requires a glance and a certain amount of consideration, however slight, which tries the eye and wearies the brain. It is partly this that renders the old system so harassing. The entry spaces in both list and day-book pages and in ledger pages are arranged alphabetically, the former in daily and the latter in monthly and quarterly columns. The names and addresses are entered once a month only in the former, and once in three years in the latter. The total fees due each month are entered in their proper spaces in ledger pages at the end of each month, so that an account may be rendered at any time with comparative ease. A special feature is the entry of cash. In the old methods it was usual, when an account was paid, to enter the amount in a separate cash book at the end of the month, quarter, or half-year, as the case might be; these payments were transferred to the ledger and placed against the particular account. But these amounts were, owing to various accidental circumstances, frequently omitted, as many of us—to our cost, I fear—have known at one time or another, with the result that accounts that had been paid were rendered again, with most disastrous consequences. In this system the cash paid is placed at once in its proper place against the account, and at the end of each year the total of all payments made during that year is carried to a column at the side, of which there are seven (one for each year, and one for the year following the closure of the book), so that by no chance, except absolute neglect, can any mistake occur. The totals each year under each alphabetical letter are carried to a special page assigned to them, on which are also seen annual petty cash, expenses, and income. The profits each year are easily made out and clearly seen, and income-tax returns can be made out in a few minutes. Special pages are provided each month for petty cash (or fees paid at time) and for expenses. The whole book-keeping proper is thus kept for six years in one book with the least possible expenditure of time and trouble; old accounts are kept well in sight, and room is provided in day-book pages for the entry of different members of a family. The signs and abbreviations in use are not arranged at haphazard, as in some list-books, but the former are designed upon a system, easily learned or remembered, the latter being all abbreviated from the Latin and not an indiscriminate mixture of Latin and English. The book is neatly bound in morocco, and its moderate price, 35*s.*, places it within the reach of all, and only represents an annual cost of 5*s.* 6*d.* The No. 1 edition is arranged for private practices of under £1000 a year; the No. 2 edition (not yet published) for private practices of from £1000 to £1500 a year. The book is sent on approval by application to the publisher.

W. W. HARDWICKE, M.D.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 22, 1894.

THE selection of diphtheria as a subject upon which to obtain the collective experience of the various countries represented at the Budapest Congress was wise and necessary; for amongst infectious diseases diphtheria is unhappily taking a more and more prominent place, whilst it seems to be emphatically bound up with modern civilisation. It is remarkable, and indeed startling, to consider that fifty years ago this disease was practically unknown in this country—at least, in epidemic form—and that now it has secured so firm a foothold as to be endemic in nearly all large towns and in certain rural districts. The history of its spread, as gathered from mortality statistics, was outlined by Dr. SEATON in the valuable report which he presented to the Congress, that ably supplements the account given by Dr. THORNE THORNE in his Lumleian Lectures. One striking fact—which is incontestably proved by these figures—is the increasing incidence of the disease upon urban as compared with rural districts, a change which has been coincident with the tendency to migration of the rural population to towns and the aggregation of children in large schools since the passing of the Elementary Education Act. It is matter for regret that considerations similar to those advanced by Dr. SEATON and Dr. BILLINGS in respect to England and America were not dwelt on in the reports of delegates from other countries. A study of the epidemiology of diphtheria in all parts of the world would be full of instruction. The more light that can be gained of the laws of diffusion of disease under varied conditions the more hope would there be for the promulgation of sound measures of prevention. It would seem to be clear that, except in so far as such conditions lower vitality and render those subjected to them more vulnerable, exposure to what are ordinarily regarded as "insanitary conditions" is not the essential factor in the development of diphtheria. The broad fact that the general zymotic death-rate, and that of "fever" in particular, has been greatly lowered in this country *pari passu* with improved sanitary organisation and regulation, whereas the diphtheria death-rate has risen, justifies this conclusion. It is obvious that the more thorough and complete are sanitary measures the more is the general standard of health raised; but that such measures alone can prevent the spread of contagious disease, which may attack the most robust, is just as certainly untrue. Contagious diseases, of which diphtheria is a prominent example, have to be met by prompt isolation of the sick and measures of disinfection. It may be urged that these adjuncts of sanitation have been in force for many years and yet diphtheria has been no whit controlled.

The explanation of the failure to limit the spread of diphtheria is to be found in several of the reports presented to the Congress. It amounts in the main to a question of difficulties in diagnosis. These difficulties are due to the varied forms which the disease may assume and the confusion arising from the existence of types of throat inflammation that simulate the milder types of the specific affection. The working of the Notification Act in this country has abundantly shown this and has rendered it impossible to obtain any trustworthy statistics on a large scale of the actual prevalence of the disease and of its case mortality. The discovery of the specific bacillus by LÖFFLER and the proofs of its specificity which have been given in the researches of SIDNEY MARTIN, ROUX, YERSIN, and others, have, however, placed in our hands a diagnostic test, the application of which is almost a matter of duty. It is idle to disregard the importance of this discovery, or to cavil at the scientific "dogmatism" of the bacteriologist in the face of the overwhelming evidence in support of the causal nexus between the bacillus and the disease. The concise and clear statements made by Dr. LÖFFLER in his report to the Congress show that complete preventive measures to be adopted in diphtheria can be alone based on a recognition of the bacillus as the etiological factor; and his practical recommendations go far beyond what is customary in dealing with these cases. Nevertheless, we hold that it is incumbent to act upon them, and consider that the discovery of the bacillus may prove to be in more ways than one our chief aid in checking the ravages of the disease. For it is not only in diagnosis and in prophylaxis that this new departure gives ground for hope. It is impossible to read the carefully prepared statistics of M. ROUX (whose paper we publish in full on another page of our present issue) without feeling that in the "antitoxine" treatment diphtheria may be more successfully combated that it has hitherto been. We do not speak of the use of this method as a prophylactic, although no one can be wholly blind to the proofs of its efficacy in this direction. But that its use can modify the course of the declared disease seems to be unquestionable. It is well known how great a scourge diphtheria has been in Paris, where the children's hospitals contain so many cases and where too many an *interne* has been cut off by it in the course of his duty. M. ROUX has shown from a year's experience that the antitoxic treatment has yielded results never hitherto obtained by any other plan. It is notorious that there are few diseases for which so many specifics have been vaunted as for diphtheria. The reason is to be found in the fact that there are few diseases which are so commingled with simple affections that would recover under any plan of treatment; but in the cases narrated by M. ROUX there can be no question as to the nature of the disease, and his results cannot fail to excite the earnest attention of physicians in all lands.

Finally, although the Congress has separated and has formulated resolutions upon this subject, we trust that it is not too late for further steps to be taken by leading members to constitute committees in each country with the object of collecting and sifting information upon the nature and origin of diphtheria; to undertake, in fact, a collective investigation upon well-defined lines which may lead to wider and sounder knowledge of the conditions governing the cause of this modern plague, and the wisest course to be taken in our endeavours to stay its ravages.

THE "born delinquent." The phrase is Dr. LOMBROSO'S, "Il delinquente nato"; but the fact which it imports

was familiar in these islands fifty years ago, thanks, among other physicians, to Dr. BRUCE THOMSON of the Perth Penitentiary, whose memorable monograph on the existence and self-perpetuation of a criminal class has more than once been cited in THE LANCET. It is in Italy, however, where the phrase and fact alike are in widest professional recognition, due to the exceptionally frequent incidence of crime in the peninsula and the corresponding efforts of publicists, medically trained, to find for the phenomenon some preventive or palliative more powerful than the judicial tribunals. Of late the explosions of homicidal mania in her army have brought the question prominently into the foreground, the wholesale murders committed on their fellow soldiers by privates like MISDEA and MAGRI having had an ominous sequela in similar lethal acts perpetrated during the late military manœuvres. A well-timed contribution to the medical, as opposed to the forensic, mode of treating the phenomenon is now before us in the newly published essay of Dr. FRIGERIO, director of the Lunatic Asylum at Alessandria, an expert who, in conjunction with Drs. GRILLI, FILIPPI, and VOLINO, gave most valuable evidence at the trial of MAGRI, held during the present year at Florence. His book is entitled, "Il Soldato Magri ed il Processo svoltosi al Tribunale di Firenze" (The Soldier Magri and his Trial as it developed before the Tribunal at Florence), and its purpose is to enlist public opinion on the side of rational medicine in dealing with crime and criminals—that opinion which, when fairly and fully enlightened, will force the question on the notice of the Legislature so as, through this, to reform the practice and precept of the law courts. Hitherto the public have had scanty opportunities of considering crime from a scientific point of view. In the newspaper reports of murder cases the legal experts are invariably the interlocutors most favoured, their arguments and inferences, however diffuse, being reproduced *in extenso*, while those of the medical experts are either sparingly given or given so perfunctorily from non-familiarity with their technical language as practically to be thrown away on the reading world.

Dr. FRIGERIO, in his account of the medical analysis of MAGRI'S case, like Dr. LOMBROSO in his similar account of the same analysis in that of MISDEA, addresses the public in a special treatise, and seeks thereby to make intelligible to the lay reader the facts, and the conclusions drawn from these, which the legal mind, possibly from prejudice, more likely from lack of special training, vouchsafed a hearing only to set them both aside. He begins by giving MAGRI'S family history, showing that eccentricity and a progressive deterioration of the mental powers were coincident in it with hereditary neuroses of the degenerative type. He proves that MAGRI was a victim to that most inveterate form of hallucination "persecution mania," that he was continually harping on the theme that he was surrounded with enemies on whom he had one day to be avenged, and that concurrently with these moral manifestations he had perversions of the auditory and visual senses, hearing and beholding sounds and sights which he construed in the light of "persecution." With all this, he was not wholly lacking in the emotion of personal liking, a *στοργή*, which made him "kindly affectioned" to kinsmen and even friends. From the mental symptoms Dr. FRIGERIO proceeds to the physical, what he calls the "esame scheletrico ed antropometrico" (osteological and anthropometric examination), and he finds MAGRI "ultra-brachycephalic," with want of symmetry in the nasal, oral, and facial development, with strabismus, and with that peculiar "apertura delle braccia" (opening of the arms) which Dr. LOMBROSO makes a pathognomonic sign of mental neurosis. An investigation of the circumstances under which the man's homicidal explosion occurred leads him to pronounce the case one of "delirio sistemizzato, d'origine allucinatoria a contenuto persecutorio" (systematised delirium of hallucinative origin, with persecutory import). Hence he concludes that MAGRI was "irresponsible, not to be punished by imprisonment, but to be segregated *in perpetuum* in a lunatic asylum for criminals." This diagnosis the Florentine tribunal declined to accept, as "contrary to justice"; but, while it found MAGRI guilty, it allowed him the plea of "extenuating circumstances." After this verdict it is asked by the profession in Italy, "Why call in medico-psychological experts at all?" Their evidence, compiled with much outlay of thought, time, and money, merely serves to lengthen the duration of the trial and to increase its expenses, while practically it is set aside without any reasons being assigned; and yet in Art. 46 of the Codice Penale it is categorically laid down that "that man is not liable to punishment who, at the moment of committing a crime, was in such a state of mental infirmity as to be lacking in the consciousness of what he was doing and in the power of controlling his acts." Of what use, the medical profession in Italy demands, is this article if the tribunal systematically ignores the evidence by which it is substantiated as a plea in law?

Leaving this part of the question Dr. FRIGERIO proceeds to suggest the preventive measures by which the mentally infirm like MISDEA and MAGRI can be excluded from the army. At the conscription he would impose a far more searching scrutiny of the individual than has hitherto been practised. The purely physical examination now in use should be supplemented by medico-psychological inspection, such as a qualified assessor could easily perform side by side with the army surgeon. The reinforcement of the medical staff which he proposes must undoubtedly cost money; but would not this be an economy if it prevented such homicidal explosions as have recently occurred in barracks, to say nothing of the tedious and expensive trials they cause? The question has all the gravity Dr. FRIGERIO assigns to it. The shooting of a MISDEA or life-long imprisonment of a MAGRI have no deterrent force on the mentally infirm soldier, whose hereditary taint becomes aggravated by the monotony of barrack life, while his command of rifle or sabre supplies him with the readiest means of gratifying his murderous propensity. The conservative leanings of the forensic, and still more of the military, mind have their justification in many ways; but surely not in the systematic ignoring of the new light thrown by medical science on epileptoid explosion and homicidal impulse—neuroses of exceptional frequency in countries like Italy, where recruiting for the army is much too promiscuous to exclude from it the

MISDEAS, the MAGRIS, and the TORRES of all too recent and too typical notoriety.

WE take much interest in the action of medical men with regard to the evils of alcoholism. These can scarcely be exaggerated, though there is a wonderful power of resistance to them in some constitutions. It is not only that alcohol causes diseases of the gravest character directly—such as cirrhosis, alcoholic neuritis, gout, &c.—but that by the general misery and innutrition of families which it involves it favours all other degenerations. But, though it is scarcely possible to overrate the harm done by alcohol, taken habitually, in any but moderate quantities, it is possible, we think, to exaggerate the importance of teetotalism. With every sympathy with Dr. LONG FOX and other speakers at the annual medical breakfast of the National Temperance League in their sense of the evils of alcohol and in their desire to see them abated, we demur to the proposition that medical men must be total abstainers before they can speak with effect on this question. We have a strong suspicion that a medical man who is known to be an ardent and a pledged teetotaler loses influence with a large number of persons. He is considered to be prejudiced, and his advice is too general and indiscriminate to weigh with individual patients. That there may be some drunkards who will abstain on condition that their medical attendants abstain may be true. Each medical man must judge of his duty in regard to that particular case, and must decide rather on high general than on medical principles what degree of self-sacrifice he will practise; but that is a very rare case. Extreme temperance and carefulness in the personal use of alcohol are binding duties on a medical man, as well as extreme care in the prescription of it. The prohibition of all drinking at odd times and for the mere sake of drinking should have no sanction either from the advice of the medical man or from his example. It is ruinous to the liver and nerves; yet it is amazing what numbers of young and inexperienced men may be seen any day taking alcohol in this manner. We are aware that some of our very best physicians take no alcohol, either for personal or for moral reasons. All honour to them; but that is a different thing from pressing the point that only by individual teetotalism can the medical practitioner testify against excess. Moderation of habit and a fair share in the public denunciation of drunkenness and of all things in our laws or trade which encourage it well become the practitioner. Our more extreme friends should consider whether, by advocating more practicable measures, they cannot command a larger support from the medical profession in opposing a vice which, as Dr. LONG FOX says, shortens the lives of some thousands of our fellow men more than do tuberculous disease and cancer combined.

The best sign in regard to the evil of intemperance is that our chief public men, spiritual and temporal, are feeling the urgency of it and are devising new experiments of legislation for its mitigation. Perhaps the most striking pronouncement in this direction is the letter of Mr. GLADSTONE to the Bishop of CHESTER which has just been published, expressing his faith in the principle of the Bishop's Bill and of the Gothenburg system—that of selling alcoholic liquors for the public profit only. "The mere limitation of numbers—the idol of Parliament for the last twenty years—is, if pretending to the honour of a remedy, little better than an imposture." We note that Mr. GLADSTONE states that he is glad to see that Mr. CHAMBERLAIN (whose interest in this question is of long standing) is active in the same cause. It is no part of our duty, or our intention here, to go into detail or to express any signal preference for one remedy over another. All we propose to do is to say that, from a medical point of view, the need for some remedy is urgent. While we regard total abstinence as a counsel of perfection, we are bound, as a profession, to endorse Mr. GLADSTONE'S view that the present predicament of the country in this respect is miserable and contemptible, and a disgrace to it. If the Scandinavian nations have devised a method of reducing the consumption of spirits in less than twenty years from 6·77 litres per head to 3·19, it ought not to exceed the powers of English statemanship to effect a similar reduction, both in the consumption of spirits and beer. It has been the fashion lately in many quarters to ignore our drinking habits in discussing social and political questions and to assume that all that is wanted to cure drunkenness is to ameliorate the physical conditions of the people. But this is a mistake. The two evils must be simultaneously dealt with. A reduction in the consumption of alcohol would most powerfully facilitate an improvement in the domestic situation. As medical men we see, as no other class does see, the complicated workings of alcoholism both on the individual and on all related to him, not only in the present, but in hereditary ways, and it would be treason to our duty if we did not urge statesmen and all men of influence to devote attention to this deep vice of our British Constitution, which affects all parts of the United Kingdom, and not least those parts which are undoubtedly religious. Happily there are indications that the question is passing from the region of petty party politics to one of grave urgency, calling for the coöperation of all parties, all churches, and all professions. It is not necessary for us as a profession to wait for the action of the Legislature. We have our own ways of enlightening the public on the subject and we have our own responsibilities; but one of these responsibilities is to say that few steps could be taken which would do more to elevate legislation in the eyes of the people than for political leaders to forget for a time their party differences and consult and coöperate gravely for the settlement of this question.

THE working members of the New Local Government Board for Scotland have been duly nominated and appointed. Mr. J. SKELTON, present Chairman of the Board of Supervision, will be Vice-President of the Local Government Board, and Mr. J. P. MACDOUGALL, advocate, and Dr. JAMES MCLINTOCK, medical officer of health for Lanarkshire, will be the other Crown appointed members. Dr. MCLINTOCK is to be congratulated on this appointment. The office is a new one, and one of much importance to the profession as well as to the public of Scotland. Our readers will remember what importance we attached from the beginning to the proposal to introduce a member of the profession into the board with full power to speak and vote on all questions of local government. Hitherto

generally the profession has occupied only a subordinate place in such boards; but here is a specific recognition of the advantage of appointing a medical member as such, not for any specific purpose or service, but for his special judgment in questions of local government generally, and of course more particularly in questions affecting public health. These questions and the importance of having a medical judgment to bear on them have been singularly ignored in Scotland hitherto. We may repeat here what we have said before that no medical inspectors have ever been appointed by the old Board of Supervision—a most discreditable fact and one that may account for the extraordinary backwardness of the sanitary arrangements and provisions in parts of Scotland. Parishes with the most superfluously numerous provisions for the spiritual welfare of the parishioners will be without resource for emergencies of infectious sickness and entirely dependent on the personal humanity of an ill-paid medical officer. The very religion of Scotland is concerned in the supply of such gross defects. We may expect the medical officer of the Local Government Board in all such matters to be a man of light and leading, and to make the influemce of his science and art felt. The board has power to appoint inspectors, clerks, and other officers as the board may, with the sanction of the Treasury, determine. It cannot be doubted that a medical inspector or two will be appointed by the board, and that they will detect such defects in remote places, and, perhaps, places not so remote, which will surprise the board when they are brought to its notice. We repeat Dr. MCLINTOCK is to be congratulated on the honour accorded to him of nomination to the first medical position in relation to the State in Scotland. He is a man of standing, a graduate of Edinburgh, and a B.Sc. of Public Health of that university. He is medical officer of health of Lanarkshire, an office which he will of course resign, and was previously medical officer of health for Bradford and the Colne Valley. He is the author of various valuable reports on sanitary subjects. The claims of other names will of course present themselves to those familiar with the great sanitary leaders of the profession in Scotland. One or two in particular will so occur. Dr. MCLINTOCK himself will admit that one or two neighbours, from their large clinical experience, coupled with unrivalled duties of administration as health officers and deep study of social and political economies of public sanitation, might have been preferred before him. But the lot has fallen on Dr. MCLINTOCK, and we do not doubt that he will justify his office, and make it clear henceforth that in all Local Government Boards a medical member is an indispensable element.

But while feeling the weight of the claims of others to this new and important position which has been accorded to Dr. MCLINTOCK we very gladly recognise his own fitness for the office. In the opinion of those well fitted to judge the appointment is thoroughly satisfactory, specially so to medical officers of health. We confidently expect that Dr. MCLINTOCK will use his office in no narrow official way as a past medical officer, but in the spirit of medical statesmanship, which takes into its view all the social and public bearings of local government, and that so he will advance the public estimation of the profession which has been so tardily admitted to its due place in the various departments of the State.

Annotations.

"Ne quid nimis."

A ROYAL BENEFACTOR.

HISTORY records few actions more exemplary than King Humbert's visit to Naples during the frightful cholera explosion of September, 1884. The circumstances were quite dramatic in their tenour. His Majesty had arranged to inaugurate a race-meeting at Pordenone in the Venetian territory, when the news reached him that, twenty-four hours previously, there had been an outbreak of cholera in Naples; that in one night two thousand people had been attacked; and that of these nearly one thousand had died. Without a moment's loss of time the King telegraphed to the Venetian Syndic:—"A Pordenone si fa festa. A Napoli si muore. Vado a Napoli." (At Pordenone there is merry-making. At Naples they are dying. I go to Naples.) And to Naples he went; and from day to day visited the cholera-stricken in the most squalid, most repulsive dens, assisted the medical men and the nurses; came so near the patients that three times in the same twenty-four hours he would have to get his clothes burnt, and for a whole week continued his rounds from bedside to bedside till the epidemic was sensibly on the decline and the moral courage of the inhabitants was restored. His food and drink during those memorable seven days were supplied him regularly from Rome—supplied, however, without his knowledge. What he did know from day to day was that Queen Margherita was eager to join him in his coöperation with the medical men; but this he peremptorily forbade. To commemorate his Majesty's heroism and philanthropy a tablet was on Monday, the 10th inst., unveiled on the façade of the Maddalena barracks at Naples—on the scene of his self-sacrificing exertions—and the inscription, composed by Signor Ruggiero Bonghi, sometime Minister of Public Instruction, well known as an historian of Rome, and one of the most prominent statesmen in Italy, runs as follows:—"Quì dove tanti soggiacquero—Al morbo crudele infestante Napoli—Umberto Re d'Italia—Gli ammorbati visitò tutti e all'origliere chinossi—E la parola della pietà disse a ciascuno—Onde rinata la fiducia nella lealtà e nella provvidenza dell'autorità pubblica—Nei corpi affranti rasserenaronsi gli animi—Chè tanto è più profonda la efficacia dell'esempio—Quando di più alto e più spontaneo scende—A memoria perenne di tanta virtù di sè emulata—Qui stesso dalla carità di sacerdote piissimo—il cardinale Sanfelice—questa lapide—il 10 settembre 1894—Il Municipio pose." (Here, where so many succumbed to the cruel disease with which Naples was afflicted, Humbert, King of Italy, visited all the sick and bent over their pillows with a word of commiseration for each, whereby confidence in the devotion and providence of the public authority was restored, and the people's minds were calmed once more in their wasted bodies; for so much the more penetrating is the force of example, the more exalted and the more spontaneous the source from which it descends. To the perpetual commemoration of so great virtue, self-emulated in this very spot by the charity of the devout priest, Cardinal San Felice, the town council erected this tablet on the 10th September, 1894.) The ceremony of unveiling was entrusted to the Prime Minister, Signor Crispi, who, in a speech of characteristic eloquence and skill, touched on the blessings that come to a people when the head

of the State, true to his best traditions, coöperates with the representative of the head of the Church for their rescue and rehabilitation. It should not, however, be forgotten that King Humbert's beneficence and enlightened public spirit did not stop with his memorable week's march through the cholera-stricken slums; but that he gave such an impetus to the resuscitation of the city that five years after the epidemic of 1884 he was able officially to declare open the reconstruction of the new dwelling quarters and the new drainage and waterworks—a consummation long yearned for, and now in course of still further development *pari passu* with the extension and growing population of Naples.

POISONING BY CARBOLIC ACID.

WE give on page 705 of this issue the details of eight cases of poisoning by carbolic acid which have been under treatment at the Royal Free Hospital between the dates of June 6th and Sept. 18th of this year. Five were accidental and three suicidal. With one exception, that of a child aged two years, who by misadventure succumbed to the effects of swallowing carbolic acid lotion, the poison was supplied in the commercial form by the vestry for the purpose of general disinfection. It is difficult, of course, to safeguard an individual bent on taking his life, whatever precautions may be adopted, although an extension of the schedule, which is not only desirable, but necessary, would minimise the chances of self-destruction by such means. It is to the accidental poisoning that our observations are mainly directed on the present occasion. Carbolic acid has deservedly gained universal adoption as a detergent and deodoriser. Apart from its valuable germicidal properties, its general characters are fortunately such as, with moderate care, to cause it to be readily recognised. The impure—chemically—variety used for disinfection is highly coloured, and its odour is pronounced. It may be asked, then, how it happens that so many cases are annually recorded of accidental poisoning by carbolic acid. The answer is, that ordinary precautions are not taken to prevent them. With the poorer classes of the community it is common practice to utilise the cheapest means for storing the acid. A medicine- or soda-water bottle is conveniently taken as a receptacle. Moreover, with them there is little choice for storage. A mantel-piece, clothes-box, and food-cupboard are as a rule the only alternatives. It becomes then a pressing duty on the part of the authorities to do their utmost to protect those under their official charge who, by force of circumstances, are badly provided with the means of securing their own safety. In the first place, we would recommend an enactment rendering it compulsory on vestries to supply the carbolic acid in bottles of special shape and size, properly labelled, and furnished with some signalling apparatus, so that the careless and unwary may be informed of their present danger. This plan could be readily carried out without incurring an onerous burden on the ratepayer, and, as it seems to us, is more feasible than the alternative one of compelling the authorities to direct a house-to-house system of disinfection by their employés. The latter would be costly, besides which its practice would seriously interfere at the same time with the privacy and liberty of the subject. Whatever scheme is fixed upon it is obvious that something must be done, and that quickly, or we shall have further statistics.

CABS AND INFECTION.

IT is probable that no subject is less clearly understood by the ordinary Briton than the common law of his native land and the mode of its administration. Were he better instructed the national exchequer would be poorer by many pounds sterling of penalty, the price of unintentional omissions of his bounden duties as a citizen. When he alone suffers we may be content that he should receive his punishment and our sympathy. When, on the other hand, his error compromises the public welfare a further satisfaction must be sought for. He must learn by this experience or his chatisement is fruitless. It is to be hoped that the case of a mother who was lately convicted of having sent her child in a cab to hospital while suffering from diphtheria without notice to the driver, will not be wanting in this result. The woman probably did not realise the contagious character of her child's illness. Her offence reminds us, nevertheless, of the necessity of conveying to such as her a much-needed caution as to the management of infectious cases. Happily we possess in early notification a ready means of assuring isolation. Where removal of patients is desirable the parish inspector can be relied upon to arrange this by the safest and most convenient means—the hospital or parochial ambulance. In any case in which his services are not at once available, any responsible person on his own part should apply for the like facility. In no case is it permissible to utilise an ordinary public vehicle for this purpose without due notice and the employment of sanitary measures. Such facts as these are easily understood. They might be as easily remembered and applied if local authorities were careful, by public and periodic notice, to impress them on the popular mind.

THE OPIUM HABIT IN EUROPE.

IT cannot be regarded as a healthy characteristic of Western civilisation that its appetite for novelty in ideas and customs is practically omnivorous. Were the good or the useful alone appropriated a certain truth in taste would be apparent. It is not so, but whatever the nature of the new claim it will somewhere find acceptance without any close questioning on the ground of morals or public advantage. Suggestive in their very name of such a morbid origin are the "morphine institutions," which, founded on a soil of artificial habit, have lately arisen in Paris. These places are frequented both by men and women, and the method employed in them is that of subcutaneous puncture. A graphic sketch of an interior which appeared last week in a contemporary is no doubt familiar to our readers, and we need not therefore discuss it here. It is, notwithstanding, a remarkable fact that a drug hitherto used and regarded—with justice—as a remedy for disease, dangerous in its character, hostile to the activity of natural function, and wholly unjustified by any plea of common necessity, should have come to be considered by anyone, much less by many, as a luxury permissible for daily use.

THE CONSULTING-ROOM SNEAK.

THE consulting-room sneak is as well-known and sharply defined a rogue as the area sneak, and the latest example of him, who, we see, has just received at the Lambeth Police-court a sentence of six months' imprisonment with hard labour, had certainly by his own showing carried on his particular branch of larceny with success and impunity for some considerable time. His methods were typical, and where only a new or dull servant required to be circumvented was likely, almost to the point of certainty, to prove successful. He called at the house of a medical man who was not at home, and said that he wished to make an appointment for him to see his sister. In one case, finding that he had the son of the house to deal with and not a servant, he left what turned out to be a false name and address and went away. But the gentleman whom he had just interviewed, having had his suspicions of the caller's honesty aroused, followed him for some two hours, and during the period that he was under inspection the devoted brother of a suffering sister called at eight

houses in the neighbourhood. The amateur detective's suspicions appearing to himself now to be justified he spoke to a policeman, and the man was taken into custody. At the Lambeth Police-court he was charged among other things with stealing a carriage clock from a medical man to whose house he had gone in the guise of a patient. The page to the victim identified the carriage clock produced as the property of his employer, and said that it was missed from the consulting-room on the day that the prisoner called. His master was out and the prisoner, on learning the fact, asked permission to write a note. He was allowed to do so, and was left alone for a short time, presumably being so employed. About an hour after the prisoner had left the clock was found to be missing. The prisoner confessed the justice of the charge, and said that he was driven to his crime through poverty. The magistrate, on learning from the detective in charge of the case that, though he had never been convicted before, there were over twenty charges of the sort against him, sentenced him to six months' hard labour, expressing a doubt whether he ought not to send the case for trial rather than treat the convict as a first offender. There is always one element of sadness about these cases; and it is as invariably present as the details of the theft are invariably the same. The prisoner is always a man of some education and some claims to be considered of respectable social standing. This is essential to his success in his risky calling, while it obtains for him a sympathy that his counterpart, the area sneak, does not obtain. We do not suggest that exemplary justice was not done in this case—we think the contrary; but we strongly urge upon medical men the necessity of warning all their servants against plausible visitors who call at hours when a busy man would generally be away from home, and request to be allowed to enter the house to write a note or to wait for a few minutes.

AN ANTI-CORSET LEAGUE.

IT has long been a subject of surprise to members of the male sex that women, who are second to no section of created beings in their desire for personal independence, are nevertheless more subject than any to the tyranny of custom in matters of dress. The *modiste's* word is their canon. If she, or even if he, decrees a high heel it is adopted with Chinese docility; if she, or he, determines to plate the body with a stiff corset this, too, is borne with suffering loyalty. Now and then there comes a reaction. Cheered by a ray of scientific light the insurrection glows awhile, but too often only to be environed and quenched in the wintry unconcern of the fashion-tied. Ever and anon it is reawakened by some undaunted rebel, and with every such awakening hope returns that at last the formal circle will be pierced and shattered by the point of instructed argument. We have now come to such a crisis. A new power will be liberated for service at the coming Health Exhibition at Liverpool by a recently formed Anti-Corset League. The objects of this association will consist in inculcating true principles of clothing, which neither offend the eye nor the requirements of health. The use of the corset will be specially discouraged, but its place will be taken by an easy and natural form of support consistent with the wholesome development of the body and the due exercise of its functions. There is certainly ample justification for the efforts of the new society, and we say this in no light or jocund vein. Possibly, the evils attributable to tight-lacing are not so prevalent as they were; but they still exist, and if we do not commonly meet with extreme and fatal consequences from an excessive devotion to this custom we can still distinguish its effects in the pallid countenances and limp physique of anæmic, under-nourished girls and women who are its victims. It is claimed that some equivalent support is needful if the stays be dispensed with. This assertion is, at least, very doubtful. In view of the supple strength and grace exhibited by young girls who wear what is little else than an under-waistcoat we cannot admit the necessity, provided that the muscles of the trunk have not been already weakened by the bondage of a corset. Regular and careful exercise if early begun and consistently carried out should render women from their girlhood as capable as the other sex to maintain an erect carriage without such artificial aid. If, on account of weakness, congenital or induced, a support be called for in any case, or if irregularities of contour occasioned by the circumstances of later womanhood seem to suggest some kind of moulding influence in the clothing, this ought certainly to be governed by the principle expressed by such a doctrine as that of the Anti-Corset League. The orthodox corset should only be tolerated as the uniform of its chronic and incurable *habitué*.

THE DIFFUSION OF SMALL-POX.

THE recorded cases of small-pox in London last week, though small in number, were none the less from several parts of the metropolis. Cases were contributed by Marylebone, St. Pancras, Kensington, Fulham, and Shoreditch. Indeed, some fear is felt lest the disease should spread in the last-named parish. There were in the week 16 admissions to institutions of the Metropolitan Asylums Board, and on Saturday night 102 patients remained under treatment in those institutions, in addition to several at the Highgate Small-pox Hospital. On Sunday last there were admitted to hospital 2 cases from Marylebone and 1 from Fulham; and on Monday 2 from Marylebone, 2 from Shoreditch, and 1 each from St. Pancras and Fulham. There were 3 deaths registered in London last week from small-pox, and cases are reported from Edmonton and West Ham. Devonport also had experience of the disease. In the Midlands there were 3 deaths registered in Birmingham and upwards of 20 fresh attacks, and cases also occurred at Aston Manor and at Wolverhampton. At Willenhall the disease, it is hoped, is dying out, the patients in hospital numbering only 21 at the close of last week, and the hospital is expected to be shortly cleared. In the North Liverpool had some cases reported, and Hartlepool had a further small invasion. Across the Border another case of small-pox has occurred at Kirkcaldy, the hospital having had to be again opened, and some uneasiness is felt as the result of recent fatal attacks there.

TUMOUR OF PONS AND LEFT CRUS CEREBRI.

IN *Brain* Dr. Sharkey records a case in which several points of interest occur. The patient was a sailor aged forty-three, whose symptoms commenced three and a half months before admission with perspiration so profuse as to become the subject of general remark. He also became rather stupid and used to knock against objects on turning to his right. He soon became deaf in the right ear, and suffered from numbness all down the right side of the body. On admission he was found to have right hemianopia and paralysis of the superior rectus in each eye. The right pupil was larger than the left, but there was no optic neuritis, and the pupils reacted both to light and during accommodation. There was complete deafness of the right ear. Over the whole of the right side of the body there was not only subjective numbness, but actual impairment of sensibility to the different forms of stimulus. Taste and smell were not materially impaired, and as regards motor power only in the right hand was there slight impairment. The reflexes showed no obvious change, and although memory was said to be defective, it was not distinctly impaired. Articulation was rather indistinct, and there was a slight tendency to stammering.

A peculiarity in gait which was observed was such as might have been due to ankylosis of one ankle following an old injury. There was no incoördination or giddiness, and profuse perspiration continued, but without any signs of visceral disease. The patient slowly but steadily became worse. The most marked change consisted in loss of memory and mental power, and in time he became so forgetful of words as to be unable to carry on a conversation. In February—a month after admission—there was distinct weakness of the lower part of the right side of the face, and in March distinct optic neuritis manifested itsef, and alexia and agraphia were also present. His mental and bodily condition became weaker, and he died comatose about five months after his admission. At the necropsy the brain was the only organ which was found diseased. There was found to be a large tumour of the left crus cerebri, and the left optic tract was flattened by the pressure. The tumour occupied the region of the corpora quadrigemina and the roof of the aqueduct of Sylvius, and also filled the whole of the space between the third ventricle and the upper border of the cerebellum. There was practically no involvement of the hemispheres. The interesting points in the case are the onset with profuse perspiration, the continuance of this when the patient came under observation, and the marked failure of mental power and the power of speech while the left hemisphere and the corpus callosum remained practically intact. It is also curious that the affection of the third nerves had led only to impairment of the upward and very slightly of the downward movement, and that the nerve on the side of the tumour was not more affected than that on the side opposite to it.

THE RECENT CHOLERA OUTBREAK IN LUCKNOW.

WE referred last week to the calamitous outbreak of cholera in a British regiment in the cantonment of Lucknow, into all the circumstances of which the Government of India are at present inquiring. We are glad to learn that the disease may be said to have ceased at Lucknow, only two deaths—one native and one European—having occurred since the last report. It is a noteworthy fact that in the past history of this station, as of some other stations in India, sudden and severe outbreaks of a somewhat similar kind have occasionally occurred and have been limited to one or other of the barracks, the prison, hospital, or a regiment or battery of Royal Artillery. We should be glad to learn that no time had been lost on the present occasion in moving out the affected regiment after the first cases had made their appearance. Two different forms of cholera invasion are frequently observed in India: one, in which a few cases—only one or two—show themselves with an appreciable interval before the disease manifests itself on a larger scale and from which a corps may be saved altogether if the interval be utilised in promptly moving the men out; the other, in which the disease breaks out explosively, as it were, many attacks appearing almost simultaneously or in the course of a few hours in several different barrack-rooms or barrack blocks. In this case the regiment or corps is apparently attacked in community, and if moved out in different detachments cholera may continue to manifest itself in all of them for several days after quitting the station in which the outbreak primarily appeared. The disease will then follow the course normal to it under the different conditions and circumstances in which the inhabitants of the affected community is placed. A striking instance of this occurred many years ago in a regiment quartered in Peshawar. The disease manifested itself suddenly and in force. One wing of the regiment attacked was moved out of the garrison and Peshawar Valley, while the other remained there. Cases of cholera occurred for some time about equally in both wings, and the movement had apparently done no good; but while it ceased altogether after a time in that wing which had marched out it continued in the other and remaining wing and pursued the course normal to it, as determined by the results of previous experience in Peshawar.

THE JOHNS HOPKINS HOSPITAL.

THE extent and excellence of the work which is being carried on at the Johns Hopkins Hospital at Baltimore receive additional illustration in a report on neurology which we have recently received. This report is entirely the work of Dr. Henry J. Berkley and consists chiefly of an account of his further researches in the histology of the nerves of the viscera, a field which he has made peculiarly his own. The liver, lungs, cardiac ventricles, the submaxillary gland, the thyroid gland, and the pituitary body are put under examination with special reference to their intrinsic nervous supply, and the results are set out in over eighty pages of letterpress, with numerous careful microscopic drawings. The remaining forty pages of the report are devoted to a consideration, clinical as well as pathological, of dementia paralytica in the negro, and the whole forms a record of exceedingly careful and, we doubt not, accurate work.

"THE FINING OF A HOSPITAL SURGEON."

UNDER this title more than one of our lay contemporaries have commented upon an inquest held last Monday at Guy's Hospital, in the course of which the coroner, after expressing his dissatisfaction at the absence of the medical officer, whose evidence he required, fined the absentee £5. As some of the comments have been a little severe—the result, no doubt, of imperfect information—we are glad to be able to record the truth and its satisfactory issue. At the time that the inquest was being held the house surgeon was actually employed at an operation, but, expecting momentarily to be able to leave, did not provide himself with a substitute. At the moment that his presence was required at the inquest he could not leave, and was obliged to send a dresser with a message to that effect. All this could not possibly be intelligible to the coroner; but the house surgeon has since written a letter of explanation and apology to that gentleman, and no fine has been inflicted.

PERFORATION OF THE UTERUS BY THE CURETTE.

THE August number of the *Archives de Tocologie et de Gynécologie* contains an interesting and ingenious paper by Dr. Auvard on the Relation of Curetting to Perforation of the Uterus. He considers that there is no one with an extensive experience of curetting to whom this accident has not happened on one or more occasions, though he believes that its occurrence is rare. Referring to his own practice perforation of the uterus happened once in 270 cases of curetting. Dr. Auvard does not agree with the view commonly held that the perforation is produced by the curette itself, either in consequence of an extreme friability of the uterine wall, or from roughness on the part of the operator, or from both causes combined. He admits the possibility of this mode of origin, but thinks that in the large majority of cases the perforation is not caused by the curette itself but by the methods employed for the dilatation of the cervix preliminary to the curetting. In other words, the curette merely discovers the perforation. He then reviews the various means of dilating the cervix. There is the slow method by laminaria tents and the rapid method by which the cervix is dilated in a few minutes. The instruments employed for the rapid method are: (*a*) the three-bladed metal dilator of Sims, (*b*) the two-bladed metal dilator, and (*c*) Hegar's bougies. Dr. Auvard considers that the three-bladed dilator deserves the title of

le dilatateur-perforateur par excellence, but that the two-bladed dilator is nearly as dangerous, and expresses the opinion that when the use of these instruments is discontinued perforation of the uterus will disappear also. He expressly insists that these views are only to be taken as applying to the uterus apart from pregnancy or the puerperium. This being understood, it may be confidently said that rapid dilatation employed on a rigid cervix to the extent needed to admit the finger, whether by three-bladed or two-bladed dilators or by Hegar's bougies, will be followed in no small proportion of cases by a certain amount of laceration of the cervix, especially in the neighbourhood of the internal os uteri, and it is not difficult to see how easily a laceration may become a perforation. Incidentally, in the course of his paper, Dr. Auvard expresses the opinion that the best means of dilating the cervix in such cases is to begin with laminaria tents, and if sufficient dilatation has not been effected by their means, to complete it with a few sizes of Hegar's dilators. It is interesting to find that Dr. Auvard confesses he formerly objected to this method as being too cumbersome, but that a more extensive experience has now brought him to look upon it as the best.

A FATAL RESULT OF HYPNOTISM.

THE tragic occurrence reported this week from Vienna should go far to check the prevalent craze for witnessing and sharing in hypnotic *séances*. A young girl, daughter of a wealthy landed proprietor at Najiregahaza, Hungary, when under hypnotic influence, was told by the hypnotist that she was suffering from phthisis. She at once shrieked out and fell to the ground, all efforts to resuscitate her proving of no avail. It has often enough been suggested that the exercise of hypnotism may have effects upon the moral and mental constitution of the unfortunate victims which may prove a source of misery to themselves and others; but by this case the physical danger involved in the hypnotism of young and susceptible subjects is shown to be of the gravest nature.

SUTURE OF THE SCIATIC NERVE.

IN the *Dublin Journal of Medical Science* for September Dr. Dallas Pratt records an instance of this operation which is almost unique in its character and result. The particulars are as follows. A delicate-looking lad aged sixteen was employed in a workshop in which there was a large horizontal shaft with a number of pulleys driving machinery. He proceeded along a girder and attempted to put a belt on one of the pulleys while it was in motion, but the belt caught him and threw him against the pulley, and he became wedged between it and the girder. The particular pulley happened to have a piece broken out of the rim, and before the engine could be stopped a large wound had been inflicted on the back of the lad's right thigh. This wound was six or seven inches in length, at right angles to the long axis of the limb, and all the structures at the back of the thigh, including the great sciatic nerve, were divided down to the femur. The character and appearance of the wound may be imagined from the fact that it gaped to the extent of five inches, and that it had included in it a quantity of machine black, lubricant, and portions of clothing. The patient was anæsthetised and the wound cleansed with 1 in 40 warm carbolic lotion. The divided ends of the great sciatic nerve were found to be in a very lacerated condition, so that it was necessary to remove nearly half an inch of each in order to get a clean and solid service for suture. The ends were approximated by stretching first one and then the other, and they were then united by means of three fine silk sutures, one into the sheath on each side, and the third through the substance of the nerve in the centre. The muscles were also sutured by means of silk, and the skin was united by harelip pins. The surfaces were dusted with iodoform, and alembroth gauze was used as a dressing, while the limb was fixed to a splint with the thigh extended and the leg flexed as much as possible. The patient made an excellent recovery, the only complication being a few trophic ulcers on the toes, which healed readily. Within a month of the time of the accident the wound was reduced to a superficial ulcer, and in less than three months the patient was able to walk fairly well, and sensation had returned to all parts of the limb except the dorsum of the foot and toes. We congratulate Dr. Dallas Pratt on the care and skill which he exercised in this very remarkable case, and on the excellent result which was obtained.

EXPOSURE OF SMALL-POX PATIENTS.

ACCORDING to the *Western Morning News* a man who was recognised by the officials at Stonehouse to have small-pox was allowed to walk about between Stonehouse and Plymouth four times in a day. This he did lamely, taking his meals with healthy persons and doubtless conveying the disease to them. Surely officials should know that in thus permitting a small-pox patient to wander about they are breaking the law very seriously.

ATHETOSIS AND ITS PATHOLOGY.

IN *Virchow's Archiv* Professor Eichhorst has a contribution on this subject, which is abstracted in a recent number of the *Neurologisches Centralblatt*. Two cases are considered, and in one of them a necropsy was obtained. Both patients were affected on the right side, and the affliction dated from childhood. In one, besides the fingers and hand, the face also was affected, as well as the muscles of the lower jaw—a very unusual condition. In this case also there were occasional tonic muscular contractions, which caused a temporary cessation of the athetotic movements. In the second case nothing unusual was present as regards its clinical aspect. At the necropsy a cyst about the size of a walnut was found in the left lenticular nucleus, extending on one side into the internal capsule and on the other into the external. In a critical consideration of the recorded cases of athetosis with necropsy the writer finds that in the great majority of cases the lesion is found in the optic thalamus or corpus striatum, and the characteristic movements are presumably evoked by the irritating effects of the lesion on the adjoining pyramidal tracts.

THE Queen has been graciously pleased to intimate to Dr. Thorne Thorne, C.B., the principal medical officer of the Local Government Board, her appreciation of the services which have been rendered by the Medical Department of the Board in taking the measures which it has adopted for preventing the entrance of cholera into this country. It is generally known that ever since the first indication of danger to this country in the autumn of 1892 Her Majesty has taken a deep interest in all the measures that have been adopted to prevent our invasion by cholera.

WE have already announced the programme of the Fourteenth Congress of the Sanitary Institute, to be held at Liverpool from Monday until Saturday next, inclusive. The reception of the members will take place at 1 P.M. on Monday at the Town Hall by the Right Hon. W. B. Bowring, the Lord Mayor of Liverpool.

ON Tuesday last the fifth annual congress of the district councils of Scotland in connexion with the registration of plumbers took place in the Town Hall, Inverness, the Provost presiding, supported by Sir Stuart Knill, ex-Lord Mayor of London, the Master of the Plumbers' Company.

LORD ROTHSCHILD has contributed 100 guineas towards the £2000 for which the Royal Hospital for Diseases of the Chest in the City-road has recently made urgent requisition. The Hon. Lionel Ashley has sent £15 towards the same fund.

CHOLERA.

CURRENT NOTES, COMMENTS, AND CRITICISM.

BEFORE entering upon our brief summary, in which the events making up the medical history of cholera for the past week are chronicled, it may be well to advert to the subject of international hygienic conferences, and to say a few words in illustration of what the recent Congress at Budapest has done, and what it is conceivable that such conferences might do for advancing the study of cholera.

Medical congresses, in common with other big scientific gatherings, are becoming rather discredited instruments for attaining the aims and objects which form their *raison d'être*, and for which they were really designed. It would be a tempting theme to consider why this is so, but it is one into which we cannot enter now. Such gatherings, as at present organised, are apt to be attended by faddists who seize them as opportunities for ventilating their notions, or by those whose names are found under every stone, as well as by those who are simply seeking an "outing" and a holiday. The really earnest thinkers and workers—those who only speak because they have something to say instead of merely wishing to say something—are liable to be swamped and lost altogether in the flood of professional papers and speeches; and such members as are keen to add to their stock of knowledge and ideas are very likely to become both physically fatigued and mentally jaded by the claims of different Sections, the close attendance and the strain on the attention, to say nothing of the superadded social duties and amusements.

An International Conference is, however, capable of being turned to better account and of being made a powerful engine for good. It brings to a focus, as it were, a mass of new information, ideas, and experience derived from very different sources and not otherwise procurable, the sum total of which cannot fail to add to the knowledge, strengthen the intellectual grasp, and fortify the judgment of its members. Supposing that the observations made independently by different observers at many different places are found to be in accord, there can then be little doubt of their accuracy, and it may be not only possible, but practicable, on the conclusions drawn from them, to formulate a line of action with regard to the prevention or treatment of any given epidemic disease or the basis of future legislative action; and this should be one of the main aims and objects of an International Congress of Hygiene and Demography, for example.

In this direction, and keeping in view a practical end, we turn to the work done in the department dealing with bacteriology and infectious disease, which was the real life of the Budapest Congress and the centre of its scientific interest, in order to discover what has been done regarding our present knowledge of cholera. Has it been proved that Koch's comma bacillus is not only the invariable concomitant, but, what is of far more importance, the sole and essential cause of cholera; and, granting for the sake of argument, that the disease can be reproduced in a healthy subject by the transfer of these bacilli from a cholera subject, what new light does the discovery throw on the phenomena and history of cholera epidemics?

No direct, positive, and unanimous reply of an affirmative kind was given to these questions by the bacteriological experts at Budapest. On the contrary, Professor Max Gruber of Vienna declared that the bacteriology of cholera is by no means so simple as was once supposed; the deeper investigation goes the greater the difficulties that rise up before us. And Professor Metchnikoff of the Pasteur Institute declares that the comma bacillus, though present in cholera, has nothing to do with the production of that disease; there is something *mystérieux* which has yet to be studied before we know what cholera is and how it spreads.

The fact is that all the facile phrases now so current, which sum up the etiology and pathology of cholera in a few words, are phrases, and nothing more; they are in no wise condensed science. There is something beyond dirt and disease and the mere carrying of cholera by dirty people to dirty people, or even of dirty water being its sole and exclusive vehicle. The morphological distinctions and the value of apparent identity of the micro-organisms discovered in the intestines and dejecta of individuals suffering from cholera and its congeners, with many other points, still need further experiments and protracted investigations for their elucidation, and the papers and discussions at the Budapest Congress have done good work if, in this direction only, they give rise to some suspension of judgment in the meantime.

We have always contended that there are two separate standpoints involved in the study of cholera—viz., that of the epidemiologist, as regards the topographical and statistical phenomena of a cholera epidemic in relation to its march through a country at one time and season and not at another; and that of the experimenter, bacteriologist, and clinical observer, in relation to that disease among individuals, its causes or infective agencies and their properties, and the means and vehicles of their distribution. Both methods of inquiry are essential. The one is supplemental and complemental of the other, and it is, of course, necessary that the essential causative agent, be it what it may, should afford a reasonable and adequate explanation of the disease as a whole.

And this leads us to allude to what some future Congress, like that at Budapest, might conceivably do towards advancing our study of cholera. First, the history of an epidemic, in which the undisputed facts about its course and progress in relation to time and space, should be accurately and impartially recorded; and, secondly, the observations and experiments—bacteriological and otherwise—of different investigators should be set forth and considered in some Section to be specially devoted to that purpose. The first thing to be done is to obtain a clear general statement of the natural history of an epidemic; the second to sift, specialise, and compare the results of the labours and observations of different investigators and their laboratory work with one another.

The recent International Congress was one of Hygiene and Demography, and its aim should consequently not be exclusively technical and scientific, but utilitarian and practical also. As at present, almost all the papers—which are altogether too numerous to be fairly read and considered—naturally group themselves around the different doctrines, theories, and hypotheses current at the time. This method of procedure is not altogether always happy or philosophical. The tendency is, when any view has been put forward with sufficient authority, for it to hold the field, as it were, and to create numerous currents of papers and observations in that direction, and that only. The work of the Congress is narrowed thereby, the desire for the victory of one side or the other usurps the supreme desire for truth and usefulness, and the influence which a big Congress might exert for the general good is weakened, because a question is not sufficiently considered in its broad all-round relations to the State and public health.

One thing seems to us clear, that, even adopting contagion as the central doctrine, and the view that persons play a much

more important part than environing conditions in the history and spread of cholera, the old system of quarantine is "played out." Experience has shown that it is not necessary, for one thing; and for another, supposing it to be pushed to an extreme and logical conclusion, the remedy would be worse than the disease as far as the population are concerned—they would infinitely prefer to run the risk of contracting the disease than encounter the poverty, misery, and inconvenience of a rigid quarantine.

The latest intelligence regarding cholera in Europe shows that the disease still prevails extensively in Russia and in Galicia.

From the St. Petersburg returns we learn that there were registered in that city 92 cases and 50 deaths, and 35 cases and 16 deaths in Warsaw, between the 8th and 14th inst. respectively. From Aug. 12th to Sept. 8th in Plozk, 910 cases, 494 deaths. From Aug. 27th to Sept. 9th in Nijni Novgorod, 535 cases, 347 deaths.

According to telegraphic intelligence from Berlin the Russian frontier along the Prussian district of Marienwerder has been closed against persons coming from Russia, except where it is crossed by a railway at Otlotschin and by the Vistula at Schillings. Two fatal cases occurred at Duisburg on the Rhine, on board a vessel from Rotterdam. One fatal case occurred in Breslau. Professor Pfeiffer of the German Imperial Office of Health has gone to Upper Silesia, where cholera is said to be more prevalent than appears from the official returns.

From Vienna we learn that cholera has increased in Galicia and Bukovina. There were recently 200 fresh attacks and 133 deaths there in 24 hours, inclusive of three fatal cases at Lemberg. The latest returns show 156 cases and 101 deaths in Galicia on the 17th inst., with 5 fresh cases and 4 deaths in Bukovina. At Lemberg there were 2 cases and 2 deaths, and 1 at Cracow. Some cases of cholera are also said to have occurred in Pressburg, Hungary.

From Brussels it is reported that there has been a recrudescence of the disease at Liège, 15 cases and several deaths having occurred there on the 12th inst.

OUTBREAK OF SKIN DISEASE IN WORKHOUSES AND WORKHOUSE INFIRMARIES.

THE serious reappearance of the epidemic of skin disease which was described in THE LANCET of Dec. 5th, 1891, has caused us to institute some inquiries into its apparent epidemicity and etiology. Three infirmaries have chiefly been visited by this very peculiar and oftentimes fatal form of skin malady. Since its primary description by Dr. T. D. Savill a number of observers have been employed in its investigation, and many theories both as to the cause of its origin and its appropriate treatment have been propounded; and we understand that the Local Government Board have been during the past two years, and are now, engaged in pursuing an inquiry into the whole question dealing with all its etiological and clinical aspects. Its bacteriology is being, of course, investigated by Dr. Klein, and its clinical aspects by Dr. Andrewes. Dr. Copeman is acting as the inspector on behalf of the Board, and Mr. W. H. Power has supervision of the whole matter. The fresh outbreak has somewhat delayed the issue of any report by the Board.

The present epidemic has been most pronounced at St. George's-in-the-East, at the City of London, and at Marylebone infirmaries. From the first-named infirmary more than fifty alleged cases have been reported. It is, however, questionable whether all the cases so recorded really fall under the original description of the disease. We are indebted to the medical officer of the institution for the information that, in accordance with the theory of propagation by milk, the ordinary milk-supply had been stopped, and that the outbreak had abated thereupon.

Our representative visited the City of London Infirmary, Bow-road, and ascertained that many cases were under treatment and that the junior medical officer had placed his case-book and his cases at the disposal of Dr. Copeman to enable him to propagate his inquiries.

GENERAL DESCRIPTION OF THE EPIDEMIC.

The present outbreak at the City of London Infirmary first occurred in the same ward as it visited last year. And it has been confined to the same floors in the various blocks of buildings. The ordinary directions in favour of disinfection have had absolutely no effect in limiting the progress of the complaint. The medical officer has observed that the malady was limited to those aged people who had inhabited the infirmary for some length of time, in many cases for a number of years. At Marylebone some of the inmates attacked were in good health, but one of the medical officers, Mr. Bliss, noted that the dermatitis was of a more severe character this year than last. Here, also, it was observed that the disease had a great tendency to recur in the same individual. No deaths had occurred at this institution attributed to the disorder. On the other hand, the medical officer at St. George's-in-the-East attributed the doubling of the death-rate at that infirmary to its influence.

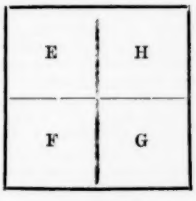
It is impossible to give an exact statement of the number of cases which have occurred, but the outbreak has undoubtedly been widespread, amounting to some 500 cases since the beginning of June. It is worthy of note, however, that in the City of London Infirmary the incidence of the disease has fallen most largely upon the female portion of the inmates, 25 women and 10 men having suffered this year. In this infirmary, also, no constitutional symptoms have appeared in connexion with the malady, a point of considerable difference from former occurrences. At Marylebone 24 women and 42 men have suffered from the disease between Friday, June 1st and Wednesday, Sept. 19th, 1894. Other cases have shown themselves in other institutions, of which we have been unable to obtain an account. From St. George's-in-the-East over 50 cases have been reported.

A contrast in the various hospitals of the arrangements of the wards and of the order in which the visitation took place, and the notification of the *special* cases in each instance would tend greatly to throw light on the characters of the disease; the duration in the different districts and the signs and symptoms being duly noted.

THE MARYLEBONE OUTBREAK.

That we are able to give the following account of the outbreak at St. Marylebone Infirmary is greatly due to the courtesy of Mr. Lunn and his assistants, Mr. E. W. Bliss and Mr. L. W. Bathurst.

The wards in this infirmary are arranged in two squares, separated by the administrative block. Each square is subdivided into four rectangular blocks of three storeys each. Each block is denominated by a letter of the alphabet, thus—



There are three floors to each block from below upwards—1, 2, 3. The male wards are E, F, G, H, and the female wards A, B, C, and D.

The disease appeared first in the third or highest storey of the H block (H_3) on June 1st, 1894. This case was followed on the 7th by another in the same ward. The next case occurred in the corresponding ward in G block (G_3) on Aug. 1st. Other cases broke out in H_3 ward on July 3rd, July 30th, Aug. 4th, 23rd, and 31st, and on Sept. 11th. On Aug. 8th a case was imported into this ward from the workhouse. A case was admitted into G_3 on April 30th, and on July 3rd he was practically covered with the rash. The temperature was subnormal all the time and the itching severe. On Aug. 16th the disease appeared in F_2, and on the 18th in the lower ward of block H two cases presented themselves. On the same day inmates were attacked in G_2 and in E_1. On Aug. 21st another case occurred in H_2, followed by another on the 23rd, and two

cases in E_2. On this date also there were two cases in F_1, one in E_1, one in H_1, and one in H_3. On the 24th one occurred in F_1, on the 23th in G_2, and one in E_1 on the 29th. On Sept. 3rd single cases appeared in H_1, H_2, G_1, and G_2, and on the 6th two broke out in F_3, two in E_3, one in G_1, and on the 7th other two in E_3. On this date an important case occurred. The bath porter, a strong, healthy man, was attacked with itching of the skin of the face. This was followed on the 8th by a papular eruption, and on the 9th his face became puffy, as in acute nephritis. The rash cleared away in this case in the course of a week.

On Sept. 11th fresh cases occurred in F_3 and one in H_1, and on the 16th two in H_3, where the disease originally began. These data and names show the same remarkable attachment of the disease to the same block which has been noted as occurring at the City of London Infirmary. In the female blocks, A, B, C, and D, the same behaviour may be noted. The disease began on Aug. 3rd in A_1 and attacked the wards in the following order :—

Aug. 3rd, one in A_1.
,, 17th, ,, in A_1.
,, 18th, ,, in C_3 and two in D_3.
,, 22nd, ,, in C_3.
,, 23rd, ,, in C_1.
,, 24th, two in A_1.
,, 27th, one in A_1 and one in B_2.
,, 29th, ,, in B_3.
Sept. 3rd, ,, in B_3 and two in B_1.
,, 4th, ,, in B_3.
,, 5th, ,, in A_2.
,, 10th, ,, in A_3 and one in A_1.
,, 11th, ,, in B_2.
,, 12th, ,, in A_3.
,, 13th, ,, in B_3.

CLINICAL DESCRIPTION OF THE EPIDEMIC.

Its Etiology.

With regard to the cause of the outbreak very little if anything is definitely known. At Marylebone diligent search has been made for the causal agent, but so far no clue has been obtained. In the East-end, however, milk has been suggested as a possible factor. At Marylebone the medical officers eliminated milk from the diet, but the disease went on spreading.

Signs and Symptoms.

The symptoms may be summarised as itching, complete anorexia in severe cases, with extreme prostration, occasionally accompanied by slight diarrhœa, and sometimes with some vomiting. Albuminuria has been found in old-standing cases. The signs have been already described in THE LANCET. The rash is usually patchy, papular in its nature, feeling a little shotty occasionally. The patches appear simultaneously, generally on corresponding surfaces. There are in severe cases œdema of the skin and induration of glands and in some cases of the subcutaneous tissue. The duration of the stages of the rash varies; conjunctivitis, with œdema of the eyelids of a very severe type, may be present. The peeling is profuse sometimes, and similar to that occurring in scarlet fever. The condition may last from six weeks to two or three months; and in no case recorded at Marylebone has the temperature been above normal unless there has been something to account for it other than the skin affection.

Treatment.

The disease has been variously treated. In the City of London Infirmary creolin is described as the sheet anchor. At Marylebone condensed milk has been used with no good results. The medical officers have tried, besides the ordinary stimulating treatment, creolin, lanoline ointment, collodion, or lead and opium, as the circumstances of the case required.

Its Influence on Mortality.

The effect upon the death-rate is remarkable in its variation in different places. At St. George's-in-the-East the medical officer thinks it has doubled the death-rate, at the City of London no deaths have occurred, and at Marylebone five men have died. The death certificates showed that they died from (1) bronchitis and asthma; (2) jaundice and asthenia; (3) cardiac failure, bronchitis, and eczema; (4) asthenia, bronchitis, and eczema; and (5) Bright's disease. In all cases the urine had been examined and the cases in which albumen was detected were those who had previously been albuminurics.

CONTAGIOUS PLEURO-PNEUMONIA IN CANADIAN CATTLE.

WE have more than once referred to the existence of a disease among Canadian cattle imported into this country, which has given rise to much dispute as to its nature, and has caused a good deal of dissatisfaction to the Canadian Government because of its being pronounced to be contagious pleuro-pneumonia by the English authorities, and the cattle from that country being treated as if they came from one in which this malady was present. This the Canadians deny in the most emphatic manner, asserting that the disease is nowhere to be found in the Dominion, that the place of origin of their exported cattle is known, and that every inquiry has been made at the farms from which the animals reported to be diseased were obtained without discovering a trace of contagion. Not only this, but experts in this country and in Canada deny that the lung lesions observed in the diseased animals are those of contagious pleuro-pneumonia, or at least that they are pathognomonic of that disorder, and consider that Canadian cattle have been unjustly condemned through an error or lack of discrimination on the part of the Government officials on this side of the Atlantic. In order to decide the question at issue, which has been the cause of much correspondence not only between our own and the Canadian Governmen's, but also between our Board of Agriculture and the Colonial Office, a committee was appointed in June last to take evidence as to the appearances present in the lungs of certain cattle landed in Great Britain from Canada in May and June, 1894. The committee was composed of the President of the Board of Agriculture, Sir Henry James, Q.C., M.P., and Professor Burdon Sanderson. A considerable number of witnesses — medical and veterinary — were examined as to the condition of portions of lungs from two animals discovered in two cargoes of cattle from Canada, and the majority were of opinion that the lesions were those of contagious pleuro-pneumonia, while several were doubtful, or believed them to be those of another disease. The difficulty appeared to be in distinguishing pathological changes in lung structure days after the animals had been slaughtered, and when the fragments had been kept in preservative fluids. A yellow-book has recently been issued containing some of the correspondence alluded to, a minute of the Board of Agriculture, and minutes of the evidence given before the committee, together with appendices made up of quotations from the works of writers who have treated of the disorder. In this book the Board of Agriculture review the evidence of the witnesses, and arrive at the conclusion that the result of their inquiry has been to support and confirm the diagnosis made by their professional officers. In no single instance, they state, did any of the witnesses examined find themselves in a position to assert, without qualification, that either of the portions of lung seen by them did not show evidence of contagious pleuro-pneumonia. The conclusion arrived at is that the two animals were affected with that disease, and therefore Canada must be considered as an infected country and the cattle exported from it to the United Kingdom dealt with accordingly. This decision is so far satisfactory to the agricultural interests of this country, though it is not likely to be received with much favour by the Canadians, who strenuously deny that their herds are contaminated. And there is certainly much that is mysterious in the case. If the disease were present in Canada it could not be concealed, judging by our own experience of it, and instead of only a few cases occurring among the thousands of animals sent here every year there would probably be as many in every shipload; while, instead of finding only a small patch of lung to be involved, and doubts being entertained among experts as to the nature of the lesions, we should find the pathological changes distinctly marked and in all their various stages.

Contagious pleuro-pneumonia readily lends itself to experimental and clinical investigation; and the Canadians, while urging that their cattle are free from the disease, and being willing to give every facility for inquiry as to their state of health, may justly complain that the resources of science were not made available in deciding what to them is a very important question, and that, instead, doubts have been cast upon their statements and a branch of their trade materially injured, because in two animals lung alterations have been discovered which are of a disputable character.

EIGHT CASES OF CARBOLIC ACID POISONING.

WE have received from Mr. George Templeton, F.R.C.S., the resident medical officer of the hospital, the following chart illustrative of eight cases of carbolic acid poisoning which have been treated at the Royal Free Hospital between the dates of June 30th, 1894, and Sept. 18th, 1894 :—

Date.	Case.	Age.	Sex.	Symptoms.	Result.	Where obtained.	Suicide or Accident.
June 30th, 1894	1	49	F.	Coma; cyanosis; stertor; vomiting; corroding of mouth; odour of phenol.	Death in 30 minutes	Vestry	Suicide.
July 11th, 1894	2	2	F.	Drowsy; vomiting; odour of phenol.	Recovered	Chemist	Accident.
July 29th, 1894	3	62	M.	Drowsy; corroding of mouth; odour of phenol.	Recovered	Vestry	Accident.
Aug. 18th, 1894	4	17 mths.	M.	Burning of cheek, left eye, lips, &c.; odour.	Recovered	Vestry	Accident.
Aug. 23rd, 1894	5	49	F.	Coma; cyanosis; stertor; vomiting; corroding of mouth; odour.	Recovered	Vestry	Suicide.
Sept. 10th, 1894	6	7	M.	Coma; cyanosis; odour of phenol.	Death in 20 minutes	Vestry	Accident.
Sept. 12th, 1894	7	40	F.	Brought in dead; corroding intense; odour of phenol; contracted pupils.	Death.	Vestry	Suicide.
Sept. 18th, 1894	8	53	F.	Corroding and swelling of lips; odour of phenol.	Recovered	Vestry	Accident.

We comment upon Mr. Templeton's interesting communication in an annotation. It should be understood that, with praiseworthy zeal in the cause of sanitation, more than one London vestry now supplies carbolic acid gratis to all applying for it.

GAOL FEVER: A HYGIENIC RETROSPECT.

MR. ARTHUR DURANT WILLCOCKS, the President of the West Somerset Branch of the British Medical Association at Taunton, in delivering his presidential address selected for his subject Gaol Fever of the Last Century.

From his address, which has been published at the request of friends and members of the association, we glean the following interesting details. It was to the exertions of Mr. Alexander Popham, M.P. for Taunton at the time, that the country was indebted for the "Act for preserving the health of prisoners in gaol and preventing the gaol distemper." This, as Mr. Willcocks truly remarked, was one of the most epoch-making Acts of Parliament as bearing on public health that was passed during the latter half of the eighteenth century. It received the Royal Assent on June 2nd, 1774. It appears that Taunton had dire reason to remember the "gaol distemper," for in close proximity to the building in which the members of the branch met to hear Mr. Willcocks' address stands the ancient Assize Hall, within the Castle Green, the scene of the ever memorable "Bloody Assizes" under Judge Jeffreys that followed the field of Sedgmoor (1685). And, almost as it were by a kind of Nemesis, there occurred on the same spot a still more fatal "Black Assize" within the lifetime of many who must have been present at the former tragedy. For at the Lent Assizes of 1730 the infection of gaol fever was carried into the court by prisoners brought from Ilchester Gaol for trial. It proved fatal to the Lord Chief Baron (Sir Thomas Pengelly), to several of his officers and servants, to the Serjeant-at-Law (Sir James Sheppard), and to the High Sheriff of Somersetshire (John Pigot). The fever subsequently spread through the town of Taunton and carried off some hundreds of persons. The county gaol of Somerset was situated at Ilchester, prisoners being conveyed to Taunton Assizes by way of the rivers Yeo, Parret, and Tone, a distance of about twenty-five miles. The gaol was situated near the river, and was too small for the usual number of prisoners, which averaged about thirty or forty debtors, and about twenty felons. The men and women felons had no separate day-room, the room apparently designed for this purpose being used as a stable; there were separate lodging-rooms with straw on the stone floor, and no bedsteads, some of the windows also being improperly stopped up. The arrangements for exercise were scanty, the courtyards small, there was no infirmary, the water-supply was defective, and there was no bath. As a set-off against these defects the gaol had a licence for beer and wine, and, what is of special interest to us, it was the only prison in the locality which had a surgeon attached to it, at a salary of £8 a year. The Taunton Bridewell appears to have been a very superior structure, having been built in 1754, but it lacked an infirmary, so that in 1768, when fever broke out, of nineteen prisoners eight died.

The provisions of this memorable Act were very simple and appear somewhat strange in these days. But, as Mr. Willcocks truly observed, "it may not unjustly be considered the foundation of that long series of sanitary enactments that has gone so far to raise the general health of the English race during the past century." It provided for a more efficient control of the prisons by the magistrates; all walls were to be scraped and whitewashed once in the year at least; proper ventilation was to be provided; rooms were to be allotted for the immediate treatment and separation of the sick, both male and female; proper arrangements for bathing were to be instituted, and no prisoner was to leave a gaol without sufficient ablutions. It also enacted that "an experienced surgeon or apothecary" at a stated salary should be appointed to each prison, and be directed to report to the Justices at each quarter sessions on the state of the health of the prisoners under his care. The magistrates were directed to take all other precautions to prevent the outbreak or spread of infectious fever, either in public courts or in prisons, by providing clothing for prisoners and the like, and to charge all expenses to the local rates. The beneficial effects of this Bill became rapidly manifested, and, though Howard reports some occasional outbreaks of gaol fever in latter years, typhus fever was in the end entirely stamped out of our prisons, and they ceased to be centres of infection for surrounding districts and sources of alarm to the nation at large. The history of these "Black Assizes" at Taunton, Exeter, and elsewhere, and the prevalence of "gaol"—or, to give it its proper name, typhus—fever, and its gradual disappearance as an epidemic fever from this country, serve to illustrate the words of the wise man of old: "The rich and poor meet together; the Lord is the Maker of them all."

HOSPITAL AS COMPARED WITH HOME ISOLATION IN SCARLET FEVER.

ALTHOUGH there can be little doubt that in the vast majority of instances patients suffering from scarlet fever are placed within better environment in a proper isolation hospital than in their own homes, attempts are sometimes made by a too limited use of statistics, or by reference to a hospital not fitted for the use to which it is put, to disparage hospital isolation in regard to the prospect of a patient's recovery. Dr. Boobbyer, the medical officer of health of Nottingham, has in his annual report for 1893

gone into the question of hospital as against home isolation very thoroughly. He has dealt not only with the fatality rate of hospital and home-treated cases, but also with the relative frequency with which secondary cases occurred in houses in which removal or non-removal of the primary cases had taken place. He has also embraced in his inquiry what are termed "return" cases—i.e., cases which arise in a family shortly after the return of the patient from hospital, and which are apparently connected in some way or other with the return of such patient. Dr. Boobbyer has given a very liberal interpretation of what are to be regarded as secondary cases, and he has included as such all those arising in a house within twenty-one days of a patient's departure or return. It will be seen by the table which we here reproduce that the percentage of secondary attacks occurring in home-treated cases was more than double that occurring in hospital-treated instances. It will further be manifest that the fatality rate of the hospital cases was but 3·7 per cent., as against 9·7 for home cases. It can hardly be contended with gravity that such a process of selection for mild cases was exercised by the hospital authorities as to account for the great disparity in case mortality. Any natural selection there may have been would, it appears to us, have exercised its influence in the opposite direction. Dr. Boobbyer states in his report that he still continues the practice, which we have on several occasions commented upon, of sending out with each scarlet fever patient discharged a card warning the friends as to the necessity of further partial isolation at home.

NOTTINGHAM, 1893.

Table showing the Results of Hospital and Home Isolation respectively during the year 1893, both with regard to the Development of Secondary Cases and to Mortality in each Class of Cases.

	Class of cases.	Number of cases.	Percentage of cases.	Number of deaths.	Deaths per cent. of cases.	
Hospital cases.	(a) Primary	875	58 per cent. of all notified cases	30	3·4	Total death-rate, 3·7 per cent.
	(b) Secondary, in houses from which (a) came within 21 days of their removal	137	15 per cent. additional to (a)	7	5·1	
	(c) Secondary, after return home from hospital and within 21 days of return	53	5 per cent. additional to (a) & (b)	3	5·6	
Home cases.	(d) Primary	307	20 per cent. of all notified cases	28	9·1	Total death-rate, 9·7 per cent.
	(e) Secondary, during progress of case at home.	139	45 per cent. additional to (d)	12	8·6	

THE EPIDEMIC OF ENTERIC FEVER IN WORTHING.

A MOST exhaustive and thorough report, illustrated by fifteen coloured diagrams, has just been issued by the corporation of Worthing, from the pen of the medical officer of health for West Sussex, Dr. Chas. Kelly, F.R.C.P., Professor of Hygiene in King's College, London, bearing on the epidemic of enteric fever last year. Some delay was involved in the publication of the report on account of the exigencies which attend the reproduction of such diagrams as are appended. They deal with every possible phase of the subject. A map of the water mains in the four areas affected is given, and another of the sewers in the district, for the report does not only cover the progress of the disease in the borough, but in the adjacent affected districts, including the villages of Broadwater and West Tarring. Charts showing at a glance the progress of notifications and the dates of attack of each case, and the deaths are added for each district, it being made possible to distinguish male and female patients. Other charts show the sex and age percentage and proportion to population of cases and deaths respectively. Dr. Kelly has added rainfall, bright sunshine, accumulated heat, and other meteorological data bearing on the question, plans and sections of the old waterworks, the source of the epidemic, and, finally, sectional illustrations of the hydrants in use throughout the districts. There are fifty-nine pages of letterpress. Tracing the history of the epidemic, the writer mentions as a precursor a marked prevalence of diarrhœa, which did not, however, prove fatal. The "first epidemic" (May 8th—June 9th), as it is generally called, consisted of 284 cases in Worthing alone and 4 exported to the villages. There was a lull of three weeks, and in the first week of July a second outbreak commenced, no less than 75 cases being credited to one day (July 2nd). This was the highest total on any one day, the next figures being 48 on July 4th and 47 on July 1st. In that first week in July there were 298 fresh cases and 150 in the succeeding week. The greatest number of notifications was on July 10th, when 64 cases were entered in the books. Deaths, too, were highest in number in July; on the 22nd there were 5 and on several other dates 4 deaths. The "rapid decline" is stated to have commenced on Sept. 15th, and the epidemic passed quietly away at the end of the year. Other tables show a great excess of female cases—14·78, as compared with 11·58; the female deaths, too, were 111, against 77 males. At great length the history of the town's water-supply and sewage disposal is treated. Dr. Kelly "cannot see that there is sufficient evidence to warrant one in accepting faulty sewers as a cause of the outbreak." He puts the causation of the epidemic down to polluted water, and says:—

> Two sets of men were employed in making the new heading. The day gang began to work on March 13th in excavating the chalk, while on March 16th the night gang began to line the tunnel with bricks. There is no doubt that the works became polluted by the conduct of one or two of the night gang who were not regular labourers in the town. Some of the men who had been at work there gave distinct evidence of this, and some of the day gang complained at times of the foul air in the cutting when they went down to work in the morning. This information was given at the very beginning of the outbreak, although for obvious reasons no one cared to come forward and complain. *I consider that this pollution was the main cause of the epidemic, and that it brought about a condition of the reservoir and service pipes which was potent for harm.*—p. 29.

All the chemical and bacteriological reports on the waters are quoted at length, including Dr. Crookshank's, dated May 29th. The report of Dr. Kelly proceeds to give details of the spread of the epidemic to the villages, of the preventive means adopted by the sanitary authorities, of the temporary water supplies, of hospital accommodation, of the cost of the epidemic to both borough and Poor-law authorities, and of the mayor's relief fund—its contribution and distribution.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORT OF THE MEDICAL OFFICER OF HEALTH OF THE LONDON COUNTY COUNCIL FOR THE YEAR 1892.

[SECOND NOTICE.[1]]

WE dealt in our First Notice with that part of Mr. Shirley Murphy's report which referred to the density and variations of population, and to the marriage- and birth-rates of the several sanitary districts within the administrative county, and we propose in this notice to deal with those portions which relate to the death-rates from the several zymotic diseases, and the distribution of those diseases in space and time.

The report under review contains many valuable charts and diagrams in connexion with the subject-matter in the text, but we regret that our space will not allow of their reproduction. As illustrating the changes in the general death-rate of London since 1870, the accompanying table, taken from Mr. Shirley Murphy's report, is of interest. It will be seen from this table that after 1882 a general decline

[1] The First Notice was published in THE LANCET of Sept. 8th, 1894.

took place in the death-rate of the county, but that in 1890 this decline was checked by a marked rise, which was maintained in the following year.

The London death-rates since the year 1870 have been as follows :—

1871	...	...	24·6	1882	...	...	21·5
1872	...	...	21·5	1883	...	...	20·8
1873	...	...	22·4	1884	...	...	20·9
1874	...	...	22·4	1885	...	...	20·4
1875	...	...	23·6	1886	...	...	20·6
1876	...	...	21·9	1887	...	...	20·3
1877	...	...	21·6	1888	...	...	19·3
1878	...	...	23·1	1889	...	...	18·4
1879	...	...	22·6	1890	...	...	21·4
1880	...	...	21·7	1891	...	...	21·4
1881	...	...	21·3	1892	...	...	20·4

In order to compare the death-rates of the several sanitary districts on as uniform a basis as possible Mr. Shirley Murphy has furnished in his report the "factors for correction" of each district. These factors naturally vary very considerably, that for Greenwich being 1·02791, and for St. Martin's-in-the-Fields 1·21665. The highest "corrected death-rates" for 1892 were to be found in the Strand (33·4 per 1000), Holborn (29·7), and St. George's-in-the-East (28·8) sanitary districts.

The relation of mortality to "overcrowding" is well set forth by Mr. Murphy in a table here reproduced.

Mortality and "Overcrowding."—The death-rates prevailing during the period 1885–92 in the various groups of districts shown on Chart II. (p. 4) of the report were as follows. Groups 1 and 2 have, for convenience, been combined :—

Proportion of total population living more than two in a room (in tenements of less than five rooms).	Death-rate—"all causes"—1885–92.
Districts with under 15 per cent....	17·51 per 1000.
,, 15 to 20 ,, ...	19·51 ,,
,, 20 to 25 ,, ...	20·27 ,,
,, 25 to 30 ,, ...	21·76 ,,
,, 30 to 35 ,, ...	23·92 ,,
,, over 35 ,, ...	25·07 ,,

Coming now to the subject of infantile mortality as estimated in relation to the number of registered births, we find that, as in the case of the general mortality, the Strand occupies the most unenviable position with a mortality of 229 per 1000, and that Holborn follows with one of 211. Other districts possessing a high infantile mortality are St. George's-in-the-East (183) and Limehouse (186). After dealing with the general and infantile mortality Mr. Shirley Murphy passes on to consider the death-rates from the several zymotic diseases. Commencing with small-pox he gives the death-rates per 1000 from that disease in London since 1850, as follows :—

1851–60	...	...	0·28	1881–90	...	...	0·14
1861–70	...	...	0·28	1891	...	...	0·00
1871–80	...	...	0·46	1892	...	...	0·01

A *résumé* of the progress of small-pox in London during 1892 is given in the report, as also is a table showing the number of cases notified during each week of the year and the districts from which they were notified. In regard to the protection against death from small-pox conferred by vaccination, Mr. Shirley Murphy supplies the following figures taken from the report of the Statistical Committee of the Metropolitan Asylums Board and referring to cases of small-pox admitted during 1892 to the hospital ships :—

Total vaccinated cases admitted...	218	deaths	3
Cases in which there was "no evidence" as to cicatrices	40	deaths	13[2]
Cases in which vaccination cicatrix was "absent"	62	deaths	17

Mr. Shirley Murphy refers to the large and increasing number of infants unprotected by vaccination, and he points out that in Hackney more than 40 per cent. of the births were "unaccounted for," while in Limehouse and Poplar, as also in some other districts, over 20 per cent. of those born were apparently unprotected by vaccination.

Measles.—In 1892 there were 3388 deaths attributed to the disease in London, the death-rate per 1000 being 0·79, as against 0·43 in 1891. The death-rates for previous decades were as under :—

1851–60	0·53	1871–80	0·51
1861–70	0·58	1881–90	0·64

In connexion with the much-debated question of the notification of measles Mr. Shirley Murphy gives extracts from some of the annual reports of the district medical officers of health, which serve to show that there is still in London a considerable want of unanimity on the subject. In May, 1892, the London School Board informed the County Council that for some time past they had excluded from their schools all children coming from houses infected with measles, but that in the absence of the notification of this disease they were unable to acquire accurate information. The board were of opinion that measles should be added to the list of notifiable diseases set out in Section 55 (8) of the Public Health Act of 1891. Upon the receipt of this communication the Public Health and Housing Committee of the County Council opened a correspondence with the several sanitary authorities in London and with the London School Board with a view of ascertaining what had been their respective actions in regard to the provisions under Section 55 (4) of the above Act, as to the transmission of certificates to the head teachers of schools which children from infected houses were attending. One of the results of this correspondence was to show that the medical officers of health, without exception, carried out the provision of that subsection of the Act, that all children coming from infected houses were rigorously excluded from the schools of the Board, and that the notification certificates were subsequently forwarded to the School Board's medical officer. This gentleman was of opinion "that the advantage obtained by the arrangements thus rendered possible by the provisions of the Act ..... are of the greatest public benefit, inasmuch as they tend to prevent the spread of infectious disease amongst the most susceptible class of the community, and at the same time reduce to a minimum the necessity of interference with the educational work of the Board."

Scarlet fever.—In 1892 the mortality from scarlet fever amounted to 0·27 per 1000 living, as against 0·14 in 1891. The death-rates per 1000 from the three previous decades run as follows :—

1861–70...	1·14	1881–90...	0·33
1871–80...	0·60		

Since the introduction of notification the percentage fatality rate of scarlet fever in London has been as follows :

1890	...	...	5·7	1892	...	...	4·4
1891	...	...	5·2				

In reference to the figures for 1890 and 1891 Mr. Shirley Murphy points out that owing to imperfect notification the number of cases was probably somewhat understated. Among the outbreaks of scarlet fever during 1892 he mentions one which occurred at Deptford, and which was due to the consumption of infected milk. The outbreak was inquired into for the County Council by Dr. Hamer, who was unable to discover any evidence of infection of the milk by human agency. There was, however, during the prevalence of scarlet fever among the milk consumers a suspicious illness of one of the cows whose milk was "ropy." The greatest incidence of the scarlet fever among the milk consumers occurred at the time when the cow in question was unwell and when her milk was being supplied, and the infective property of the milk became less marked when that from this cow was withdrawn from the supply. Four other cows all milked by the milker who milked the cow just referred to were found to be suffering from scabs and excoriations on their udders and teats. In no instance were the milker's hands affected. Another interesting outbreak having several features in common with the above, and which was investigated by Dr. Warry, acting medical officer of health for Hackney, is referred to by Mr. Shirley Murphy. In this outbreak, which occurred at Upper Clapton, as in that just related, no human source of milk infection could be discovered, but several of the cows had abrasions and cracks on their teats, and three others had abnormally high temperatures. When these three latter cows were isolated there was a lessened incidence of scarlet fever on the drinkers of the milk from the milk vendor concerned.

Diphtheria.—We recently noticed at length in our columns[3] Mr. Shirley Murphy's special report on the increase of diphtheria in London, as also a report[4] by Dr. Sykes on the same subject. It is, therefore, unnecessary for us to deal fully with

[2] The report of the committee points out that "under this heading are included cases stated to have been vaccinated, but bearing no visible evidence of the operation, and also cases in which no statement was made, but the nature of the complaint, or other cause, prevented any observation of the marks, if any existed."

[3] THE LANCET, July 21st, 1894.

[4] THE LANCET, July 14th, 1894.

this section of the report under consideration. The death-rates from diphtheria in London since 1860 will be seen by the following table:—

1861–70	0·18	1891	0·32
1871–80	0·12	1892	0·44
1881–90	0·26		

Mr. Shirley Murphy refers to the probability of the increase of the diphtheria mortality being partially explicable by change of nomenclature, and he supplies a diagram showing the close connexion between diphtheria and croup. In order, however, to demonstrate that change in nomenclature only partially explains the increase, he gives the following figures, showing the death-rate per 1000 of croup and diphtheria combined:—

1871–80	0·30	1891	0·42
1881–90	0·42	1892	0·51

Whooping-cough.—This disease during 1892 exacted a death-toll of 2491, and the following table shows the death-rate per 1000 living since 1850:—

1851–60	0·88	1881–90	0·69
1861–70	0·88	1891	0·68
1871–80	0·81	1892	0·58

Typhus fever.—There were in London during 1892 twenty attacks and eleven deaths from typhus fever, and an account is given in the report of the several cases and the circumstances under which they occurred. The account well shows the manner in which the disease may occur without recognition, and Mr. Shirley Murphy refers to the danger which arises from their non-recognition. Unfortunately for the clinical study of the malady, cases of it are rare, and, although the admission of students into the hospitals of the Metropolitan Asylums Board will do all that can be done to render medical men familiar with typhus fever, the disease even in these hospitals is but rarely to be met with at the present time.

Enteric fever.—It is satisfactory to observe that in London as a whole the decline in the death-rate from enteric fever still continues, as will be seen from the figures here given, having reference to the death-rate per 1000 living:—

1871–80	0·24	1891	0·13
1881–90	0·19	1892	0·10

In regard to the incidence of enteric fever mortality upon the several sanitary districts, Mr. Shirley Murphy's report shows for each district the death-rate per 10,000 during 1885–91, as also in 1892. Considering the figures for 1885–91 only, we find that the highest death-rates from this disease were to be found in the Strand (2·2) and Limehouse (2·0), while Kensington and Hampstead possessed the smallest rate (1·0 each).

Diarrhœa.—In the whole of London there were 2548 deaths attributed to this disease in 1892, giving a death-rate per 1000 of 0·60, as against 0·57 in 1891. By far the highest diarrhœa mortality occurred in St. George's-in-the-East, where it was 13 per 10,000, the next highest rate being 9·4 in Fulham. The rate in the Strand was 3·3, and in Holborn 5·8. The age distribution of the deaths from diarrhœa registered during 1892 in London (excluding Penge) was as follows:—

Under 1 year.	1 to 5.	5 and under 20.	20 and under 40.	40 and under 60.	60 and under 80.	80 and upwards.
1840	409	13	21	54.	152	57

Cholera.—Mr. Shirley Murphy gives in connexion with this disease a summary of its progress in Europe during 1892, and an account of the steps which were taken in London to prevent its introduction and to cope with any case introduced into or arising within the county. Mr. Shirley Murphy reproduces the report which he presented to the County Council as to the steps taken by its Public Health Department, and from this is seen the energetic manner with which he dealt with the subject and the very valuable service he rendered in the matter of cholera precautions.

Erysipelas.—6933 cases of the disease were notified during the year 1892, and of this number 292 died.

Puerperal fever.—There were 313 deaths attributed to this disease in London during 1892; there were notified 337 cases.

Influenza, bronchitis, and pneumonia.—The accompanying table is of very considerable interest as showing not only the mortality from influenza during the first weeks of 1892, but also the effect which this had upon the mortality from bronchitis and pneumonia:—

Mortality in Several Weeks, 1892.

Week of year.	Week ending on	Influenza.	Bronchitis.		Pneumonia.	
			Deaths.	Corrected average for corresponding week in preceding 10 years.	Deaths.	Corrected average for corresponding week in preceding 10 years.
1	Jan. 9th	95	740	406·9	246	142·9
2	,, 16th	271	867	430·0	285	147·7
3	,, 23rd	506	1035	382·0	317	142·1
4	,, 30th	436	844	342·9	255	125·0
5	Feb. 6th	314	492	301·1	215	116·7
6	,, 13th	183	368	332·3	140	120·7
7	,, 20th	79	259	315·6	137	118·3
8	,, 27th	61	291	309·1	116	125·0
9	Mar. 5th	34	227	329·4	114	115·5
10	,, 12th	30	288	330·7	123	132·7

Phthisis.—The following table shows the death-rate from this disease for the several periods referred to:—

1851–60	2·86	1871–80	2·51
1861–70	2·84	1881–90	2·09

There were, in 1892, 8053 deaths registered from phthisis.

Cancer.—The increased death-rate from cancer is well shown by the annexed figures:—

1851–60	0·42	1881–90	0·68
1861–70	0·48	1891	0·77
1871–80	0·55	1892	0·74

Mr. Shirley Murphy refers to the Registrar-General's remarks as to the increasing mortality from this disease both in London and England. While admitting that some of the increase is due to greater accuracy of diagnosis and statement, the Registrar-General expresses the opinion that "it seems hardly possible to maintain the optimistic view that the whole of the apparent increase can be thus explained, and it must be admitted as at any rate highly probable that a real increase is taking place."

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Ipswich Urban and Port Sanitary Districts.—Mr. George Elliston states, in his annual report for 1893, that, regarded from the point of view of excess of births over deaths, Ipswich is not increasing at the same rate as it was ten years ago. It seems, however, that the natural increase is considerably augmented by immigration. Mr. Elliston has worked out and included in his report the general death-rates in the large towns of the eastern counties for the last fifty years, and from these it appears that the rates for Ipswich up to the year 1870 compared favourably with the other large towns, that in the decade 1871–80 its death-rate exceeded that of all the other towns with the exception of Norwich, and that in the next decade it evinced a marked improvement. Since 1891, however, Ipswich has been left behind by Cambridge, Colchester, Norwich, and Yarmouth, and Mr. Elliston, in endeavouring to ascertain the cause of the high rates of Ipswich, remarks that the excess cannot be due to influenza, because some of the other towns, and notably Colchester, have suffered more than Ipswich. As regards the year 1893 the high death-rate—22·5 per 1000—seems in large part to have been due to the prevalence of measles, infantile diarrhœa, and typhoid fever. Typhoid fever was especially prevalent during the months of April and May, and Mr. Elliston states that the bulk of the cases "were found to be associated with excremental filth nuisances and badly trapped house drains in confined back yards." During the year under review there were no less than 134 cases of the disease notified. The mortality from infantile diarrhœa was a very high one, there having been 92 deaths as against 33 in the previous year. Mr. Elliston speaks highly of the value of compulsory notification in bringing to light sanitary defects, and he states that in at least 80 per cent. of the houses where cases of infectious disease were notified defects of this nature existed. There seems, according to the report before us, to be

a very considerable amount of insanitary property in Ipswich, and if the town council are anxious to reduce the death-rate of the borough it behoves them to deal energetically with the present condition of affairs. Mr. Elliston, in concluding his report, remarks: "Abolish the midden system and reconstruct and properly trap the defective house drains, and Ipswich, with its many natural advantages, will again compare favourably with its neighbours." We see, too, from a local paper which has reached us that one of the medical inspectors of the Local Government Board has recently inspected the Ipswich urban sanitary district. He subsequently had an interview with the sanitary committee, and the report then made was stated to have been "the most important that had been presented to the council for many years past." Unfortunately, this report was not at the time of writing made public by the council or their sanitary committee, but we learn from the journal referred to that the report condemned the insanitary condition of the river Orwell near the sewage outfall, the defective house drainage, the absence of supervision over common lodging-houses, the privy middens, and the badly paved and defective yards. The port of Ipswich appears to be doing an increasing foreign trade, and much of its commerce is with Russian, Belgian, and French ports. A hospital ship has now been obtained for the isolation of cases of infectious disease brought within the district.

Fleetwood Port Sanitary District.—Dr. John Fausset records that only one case of infectious disease occurred on board any vessel arriving in the waters of the port during 1893. This case was one of small-pox, and on becoming aware of its existence Dr. Fausset ordered that no one should leave the vessel until further notice. We have no doubt that the medical officer of health acted wisely in this case, but it is perhaps open to doubt whether his action in preventing persons who were apparently not suffering from small-pox from leaving the vessel was a legal one. Certainly a medical officer of health has no power to detain a vessel under the circumstances narrated.

Eccleshill Urban Sanitary District.—Mr. John Aston, in comparing the low birth-rate of his district in recent times with the high rate which obtained twenty years ago, remarks that the chief factor, from a public health standpoint, in bringing about this reduction has been the effect of the plumbo-solvent action of the water which until quite recently was supplied to the town. He adds, however, that this influence has now been almost entirely removed by the lime hardening process adopted by the Bradford corporation, and he points out that the birth-rate of the district during 1893 was 2·41 per 1000 higher than in 1892, while abortions and miscarriages were also largely diminished. Mr. Aston mentions, too, that the medical officers of health of the twenty other towns supplied with the Bradford water report that in their districts lead poisoning by water has practically disappeared. In discussing the attitude of medical officers of health in connexion with cases of dangerous infectious disease notified to them, Mr. Aston expresses the opinion that the medical officer of health should be personally responsible for the diagnosis. In this connexion he mentions a case notified to him as small-pox, which he, on visiting, regarded as chicken-pox and refused to receive into hospital. Who, he asks, would have been responsible had the case been admitted into hospital and contracted small-pox? Surely the medical practitioner, who presumably sees the case from the beginning and witnesses the signs and symptoms, is the proper person to judge of its nature and the one who must be morally responsible for its diagnosis. Take, for instance, a case of scarlet fever with ill-defined signs and symptoms and an evanescent rash. Is the medical practitioner's diagnosis to be set aside because the medical officer of health can discover no rash or other sign of scarlet fever; or is a diagnosis of diphtheria to be discredited because all membrane may have disappeared before the medical officer of health sees the case? Eccleshill was apparently the first district in England to adopt compulsory notification of infectious disease, having done so as early as 1875. The sanitary authority have now added whooping-cough, measles, German measles, and mumps to the list, and we shall look forward to next year for Mr. Aston's views on the notification of these additional diseases.

Hastings Urban Sanitary District.—The report of the medical officer of health for the borough of Hastings for the last quarter gives a very favourable account of the condition of the district. The general death-rate was, it appears, but 11·94 per 1000, a rate which shows a very considerable reduction in the corresponding quarter of the two preceding years. Of the total number of deaths which were registered in the borough no less than 26·4 per cent. occurred among non-residents or visitors. As regards zymotic disease the borough seems to have been remarkably free. Small-pox has been quite stamped out, and no deaths from enteric fever have occurred in the borough for the last nine months. In concluding this report Dr. Scarlyn Wilson states that he has "not for many quarters past been able to give such a favourable report of the borough." We are glad to see, too, that the water committee have drawn up and issued a "Memorandum as to Water-supply," in which they state that the corporation are now actively proceeding with the scheme for providing the town with a constant supply of deep-well water, and that in the meantime they have obtained an ample temporary supply from wells which has enabled them to discontinue the use of reservoir water entirely. This information will no doubt be very welcome to intending visitors to Hastings, and we congratulate the corporation on their energy.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6103 births and 3180 deaths were registered during the week ending Sept. 15th. The annual rate of mortality in these towns, which had been 15·2 and 15·3 per 1000 in the preceding two weeks, further rose last week to 15·9. In London the rate was 14·9 per 1000, while it averaged 16·6 in the thirty-two provincial towns. The lowest rates in these towns were 12·1 in Nottingham, 12·5 in Plymouth, 13·0 in Croydon, 13·2 in Huddersfield, and 13·3 in Birkenhead; the highest rates were 19·9 in Newcastle-upon-Tyne, 20·3 in Bolton, 20·8 in Wolverhampton, 22·0 in Brighton, and 24·5 in Sunderland. The 3180 deaths included 467 which were referred to the principal zymotic diseases, against 510 and 486 in the preceding two weeks; of these, 229 resulted from diarrhœa, 80 from diphtheria, 46 from whooping-cough, 44 from "fever" (principally enteric), 32 from measles, 30 from scarlet fever, and 6 from small-pox. No fatal case of any of these diseases occurred last week in Halifax; in the other towns they caused the lowest death-rates in Huddersfield, Birkenhead, and Oldham; and the highest rates in Hull, Portsmouth, Wolverhampton, Sunderland, and Preston. The greatest mortality from scarlet fever occurred in Burnley and Salford; from whooping-cough in Swansea and Norwich; from "fever" in Sunderland; and from diarrhœa in Hull, Plymouth, Portsmouth, Wolverhampton, Preston, and Newcastle-upon-Tyne. The mortality from measles showed no marked excess in any of the large towns. The 80 deaths from diphtheria included 55 in London and 4 in Sheffield. Three fatal cases of small-pox were registered in London and 3 in Birmingham, but not one in any other of the thirty-three large towns. There were 109 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 15th inst., against 158, 163, and 129 at the end of the preceding three weeks; 19 new cases were admitted during the week, against 34, 40, and 13 in the preceding three weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2079, against 2117, 2112, and 2026 on the preceding three Saturdays; 269 new cases were admitted during the week, against 232 and 212 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 123 and 136 in the preceding two weeks, further rose to 143 last week, but were 45 below the corrected average. The causes of 44, or 1·4 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bradford, Leeds, Newcastle-upon-Tyne, and in twelve other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Halifax, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 15·6 per 1000 in each of the preceding two weeks, declined to 15·5 during the week ending Sept. 15th, and was 0·4 per 1000 below the mean rate during the same period in the thirty-three large English towns.

The rates in the eight Scotch towns ranged from 10·8 in Leith and 13·8 in Aberdeen and in Perth to 17·1 in Edinburgh and 24·2 in Greenock. The 442 deaths in these towns included 28 which were referred to diarrhœa, 11 to scarlet fever, 10 to diphtheria, 5 to whooping-cough, 5 to "fever," 2 to small-pox, and 2 to measles. In all, 63 deaths resulted from these principal zymotic diseases, against 50 and 64 in the preceding two weeks. These 63 deaths were equal to an annual rate of 2·2 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 17 and 22 in the preceding two weeks, further rose to 28 last week, of which 15 occurred in Glasgow and 5 in Edinburgh. The deaths referred to scarlet fever, which had been 1 and 7 in the preceding two weeks, further increased to 11 last week, and included 6 in Glasgow and 2 in Edinburgh. The fatal cases of diphtheria, which had been 11 in each of the preceding two weeks, were 10 last week, of which 4 occurred in Glasgow and 2 in Edinburgh. The 5 deaths from whooping-cough were below those recorded in any recent week, and included 2 in Glasgow and 2 in Edinburgh. The fatal cases of "fever," which had increased in the preceding four weeks from 3 to 9, declined again to 5 last week, of which 3 occurred in Glasgow. The 2 deaths from small-pox were registered in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 53 and 52 in the preceding two weeks, rose again to 67 last week, and corresponded with the number in the same week of last year. The causes of 21, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·5 and 26·1 per 1000 in the preceding two weeks, declined again to 21·8 during the week ending Sept. 15th. During the past eleven weeks of the current quarter the death-rate in the city has averaged 20·3 per 1000, against 16·1 in London and 15·1 in Edinburgh. The 146 deaths registered in Dublin during the week under notice showed a decline of 29 from the number in the previous week, and included 15 which were referred to the principal zymotic diseases, against 17 and 19 in the preceding two weeks; of these, 8 resulted from diarrhœa, 3 from scarlet fever, 2 from small-pox, 2 from "fever," and not one either from measles, diphtheria, or whooping-cough. These 15 deaths were equal to an annual rate of 2·2 per 1000, the zymotic death-rate during the same period being 2·1 in London and 3·0 in Edinburgh. The fatal cases of diarrhœa, which had been 10 and 8 in the preceding two weeks, were again 8 last week. The deaths referred to scarlet fever, which had been one in each of the preceding two weeks, rose to 3 last week. The fatal cases of "fever," which had been 4 and 5 in the preceding two weeks, declined to 2 last week. Two deaths from small-pox were recorded during the week under notice, making 15 fatal cases within the past nine weeks. The 146 deaths in Dublin last week included 26 of infants under one year of age, and 47 of persons aged upwards of sixty years; the deaths, both of infants and of elderly persons, showed a marked decline from the numbers recorded in the preceding week. Five inquest cases and 3 deaths from violence were registered; and 45, or nearly a third, of the deaths occurred in public institutions. The causes of 7, or nearly 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

THE following officers have embarked in the *Victoria* for a tour of service in India:—Surgeon-Major Smythe, Surgeon-Captains Whaite and Clement, and Surgeon-Lieutenant Marder.

ROYAL ENGINEERS.

First Cheshire: Surgeon-Lieutenant W. R. Dalzell, M.B., resigns his commission (dated Sept. 19th, 1894).

VOLUNTEER MEDICAL STAFF CORPS.

7th Volunteer Battalion (Royal Scots): Surgeon-Captain J. B. Ronaldson is promoted to be Surgeon-Major.

THE NEW BULLET-PROOF SHIELD.

Whatever may be said about Herr Dowie's particular form of cuirass, his invention has given an impetus to other inventors to endeavour to develop and perfect the principle at the root of it. As military surgeons and others are striving to make some calculations as to what will be the effect of the latest invented quick-firing arms of precision in the next war, and as to the enormous increase in the number of killed and wounded that may be expected to follow their use and that of rifled artillery and smokeless powder, strenuous efforts are being made in an exactly opposite direction—viz., the discovery of something which should be bullet-proof against the rifle and machine-gun ammunition of the most modern types. The Duke of Cambridge and his staff on Saturday last visited the works of Messrs. Cammell and Co. at Sheffield, where a series of experiments were made with steel shields of three-sixteenths of an inch in thickness and weighing only six pounds. These were found to afford a perfect defence against the latest Lee-Metford rifle ·303 ammunition fired at short range. The invention can be used as a shield and rifle rest, and is so constructed that several shields can be interlocked and arranged as a quick and efficient protection for a section of men. The Commander-in-Chief said at the end of the experiments that he considered the inventors had succeeded in solving a problem which had been before experts for many years. If the principle involved can only be made really applicable to modern warfare—a very large "if" we would parenthetically remark—a new factor will be introduced which will upset all the calculations of military medical statisticians and army experts. But it will take a long time before a defensive invention of this sort is forthcoming which shall be so light in weight and easy of application as to be both efficient and feasible in warfare. Military surgery is not likely to be relegated to the list of lost arts at present we suspect, notwithstanding that innumerable efforts are certain to be made to attain that end in the way of mechanical defensive devices against gunshot wounds.

THE INSANITARY STATE OF SOLON.

Our army readers will probably recollect the small Indian military station Solon in the hills on the road to Simla. It is reported that, the military authorities having complained of its insanitary condition, measures are at present being taken for its improvement in this respect.

AN INCIDENT IN MADRAS.

The *Times of India* and other papers refer to a recent incident or scandal connected with the conduct of a civil surgeon of the Madras Presidency, in which the Madras Government have developed a high standard of morals that was somewhat unexpected, seeing that the history of a case in which an official of high rank, occupying a prominent place in that presidency, was concerned has not altogether faded from memory. It appears that a civil surgeon, whilst driving a married lady, who was his guest, in an open dog-cart, asked her for a kiss, which, by the way, he did not get. The medical officer, on reaching home, wrote her a humble letter of apology, which her husband forwarded to the Madras Government. The Government peremptorily called upon the offending medical officer to resign. He appealed, and it was then intimated to him that he would be removed from his appointment and sent to an obscure station in Upper Burmah, but allowed to extend his service for nine months in order to qualify for the lowest rate of pension before his retirement. There is nothing, of course, to be said in justification of the medical officer's conduct, which would have been far worse, however, if there had been any professional relations in the matter and the lady had been his patient. Still, it is urged that the punishment meted out to the medical officer, which practically closes his career in the Service and ruins him professionally, is, under the circumstances, out of all proportion to the offence. It seems to us that the medical officer's removal from his appointment and transfer to the station in Burmah would have been a sufficiently severe punishment.

THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA.

Surgeon-Major-General Rice, C.S.I., Sanitary Commissioner with the Government of India, will retire at the end of March next. The current belief is that his successor will either be Surgeon-Colonel Cleghorn or Surgeon-Colonel Harvey, D.S.O. The appointment of the head of the Indian Medical Service and Sanitary Commissioner is the highest and most responsible post in the medical service of the Government of India.

It having been decided to send two medical officers to report upon matters of medical and surgical interest in

the war between China and Japan, Brigade-Surgeon-Lieutenant-Colonel W. Taylor, now serving at headquarters in London, has been selected to join the Japanese Army, and Surgeon-Major James, already stationed at Hong-Kong, to join the Chinese Army.

The extraordinary rumours which have been afloat regarding extensions of age for the Army Medical Staff will shortly be disposed of by the appearance of some slight modifications of existing regulations.

Correspondence.

"Audi alteram partem."

"UNUSUAL CASE OF SCARLET FEVER."

To the Editors of THE LANCET.

SIRS,—If Mr. Kavanagh would refer to a paper "On the Features which Distinguish Epidemic Roseola from Measles and from Scarlet Fever,"[1] it would be seen that the "unusual case of scarlet fever" was a characteristic one of epidemic roseola.—I am, Sirs, your obedient servant,

Rugby, Sept. 15th, 1894. CLEMENT DUKES.

"SCARLET FEVER AND RÖTHELN."

To the Editors of THE LANCET.

SIRS,—The interesting letters which followed the paper by Dr. Dukes on the above subject in THE LANCET of March 31st last will make this short account of an outbreak of an infectious fever, which occurred in a school, of interest to the readers of THE LANCET. The first case occurred two days after the reassembling of the school. The patient was seized with vomiting, headache, and much prostration, and the temperature rose on the first day to 104° F. On the second day the rash appeared; it was generally of the ordinary scarlet fever type, but on the inner side of the thighs it was morbilliform and of a brighter red; the glands were generally enlarged; the tongue was thickly coated, with bright red papillæ appearing towards the sides; the throat was markedly inflamed and congested. The second case was precisely similar and was seen in consultation by Mr. Fairbank of Windsor, who without hesitation pronounced it to be scarlet fever. These cases were followed at intervals, which varied from ten to twelve days, by six other cases, all of which were of a milder type; the prodromal symptoms were mild, or almost absent; the throats were slightly congested; but in all cases the tongue was heavily coated, and the rashes were less scarlatinal in type, bearing greater resemblance in places to ordinary measles, but less papular. The desquamation was variable, lasting from four to five weeks, and being in some cases brawny and in others flaky. There were no sequelæ, excepting that one or two of the boys had marked granular pharyngitis during convalescence. About three weeks after the occurrence of the last case the boys went home for their holiday, and amongst them was the son of Dr. Ridge Jones. This boy was noticed to be ailing a day or two after his arrival, and on the following day a rash appeared which his father thought to be septicæmic in character, but which other medical men, amongst whom was Dr. Cavafy of St. George's Hospital, pronounced to be that of scarlet fever. The boy was isolated and went through the ordinary peeling stage. It is obvious that all these cases were due to the same poison; the intermediate milder cases would never have been called scarlet fever by themselves, yet at the commencement and at the end of the epidemic there were cases to which no other name could be given.

I am, Sirs, yours truly,

Slough, Sept. 8th, 1894. R. S. CHARSLEY.

THE TREATMENT OF DIPHTHERIA.

To the Editors of THE LANCET.

SIRS,—THE LANCET of Aug. 18th contained a very interesting article by Dr. Davison, recommending the treatment of diphtheria by the internal administration of soluble mercury salts, "as the sheet anchor." It is an interesting subject especially in relation to the new antitoxine method. I have had a good deal of experience with this disease and would, therefore, beg a few lines of your columns. Diphtheria is one of the most uncertain diseases to speak about as the cases vary so much, and necessarily different men view cases differently. I am strongly of opinion that the only scientific treatment is by antiseptics. I doubt if Dr. Davison is right in advocating internal *versus* local treatment—as for five or six years I treated all cases locally with good results. (In fifteen years I have only had five deaths. The parish mortality during epidemics was forty a month or more). Another argument against relying too much on internal treatment is, as Dr. Davison states, that if toxines are once formed in the blood the mercury is powerless, and yet he previously explains the virtue of the mercury by its chemical antidote action on the toxines, as demonstrated by Kitasato and Behring. Thus, by contradiction he shows that mercury is not an antidote. Then how does mercury act? Clearly as an antiseptic on the germs. But where are the germs? Not in the blood, according to present popular idea, for Löffler bacillus only grows on the surface of the membrane, does not penetrate it, and therefore cannot enter the blood. Now common sense at once dictates infallible methods if the surface-growing Löffler bacillus is the cause. Scrape off the superficial membrane, or apply strong caustic all over the membrane and over the whole throat, thus by removing the cause it stands to reason the case must recover. But is it so? Certainly not. Such methods are unquestionably wrong in treatment and result; hence the supposed cause is at fault—i.e., a surface-growing bacillus poisoning the blood with toxines prepared on the aerial surface of the membrane. Furthermore, no one has by inoculation of the Löffler bacillus at a remote part of the body produced membrane in the throat. Injection of the toxine of Löffler's bacillus often produces death from general wasting, and in some cases of rabbits leg weakness after diarrhœa, and in others paralysis. But we know so little of toxines that we may yet find the same results from other toxines. Grant that the Löffler antitoxine cures diphtheria, but it has recently been shown that the antitoxine of erysipelas does the same; so that is no argument. I infer that the action of internal antiseptics in diphtheria or any other disease is to destroy the causative organisms. But a well-recognised Löffler's bacillus is only a superficial fungus. Scientists now talk of mixed infection as an outlet of the difficulty, many having observed the continual presence of cocci in diphtherial membrane and in internal organs in fatal cases. Surely these cocci must have some play in the disease—they cannot be mere accidents. In early days I noted these along with the Löffler bacillus, and observed also that after local antisepsis the bacilli disappeared while the cocci persisted. Moreover, in making cultures I got the cocci even the first day by punctures to the base of the membrane. Thus I was led to make cultures of the cocci and inoculations under the wings of pigeons. I obtained the following results: In cases with death threatening the cocci were so virulent that the pigeons died in a few hours paralysed. At a later stage of the same cases or in rather milder types, the cocci produced after a day or so membrane in the throat, followed by paralysis and death. In still milder cases which recovered, paralysis afterwards, and in mild diphtheria no disturbance at all. These experiments (in which Dr. Enraght of Anerley helped me) were communicated to the Pathological Society, and they completely shook my faith in the "superficial" theory. I feel there can be no question that diphtheria is a constitutional disease of which the membrane is the local manifestation. If this be so, it is due to the diphthero-cocci, observed by so many, and not due to the surface bacilli of Löffler. But in treatment we have both cocci in the blood and cocci in the throat producing a membrane or slough such as only a caustic could produce. There is no question as to the local formation of diphtherial poison. Therefore it is wise and safe to treat the disease both constitutionally and locally. The principle which guides us in anthrax or malignant pustule should be pursued in diphtheria.

I am, Sirs, yours faithfully,

Leytonstone, Sept. 18th, 1894. ALBERT WILSON, M.D.

"ANILINE IN PHTHISIS."

To the Editors of THE LANCET.

SIRS,—The letter of Dr. Seymour Taylor in THE LANCET of the 8th inst. on the administration of aniline in phthisis

[1] Churchill and Co.

induces me to ask you to be good enough to publish the following extract from a work by me which appeared in 1886:[1]—"The affinity of the bacilli for certain aniline dyes, and the tenacity with which these are retained by them, even in the presence of an acid sufficient to drive the stain out of the other organisms and tissues, induced me to make the experiment of attempting to affect them in this manner in the tissues during life. I therefore administered fuchsin (rosanilin hydrochlorate) in pills to phthisical patients for prolonged periods, and in some with laryngeal phthisis added a spray of the same material, all without effect."

I am, Sirs, yours faithfully,

G. HUNTER MACKENZIE, M.D.

Edinburgh, Sept. 16th, 1894.

THE QUESTION OF DEATH CERTIFICATES.

To the Editors of THE LANCET.

SIRS,—I wish to elicit an opinion on the following case. I attended a Mrs. Hardt for fourteen days previous to and including the day of her death. For many years at short intervals I had attended herself and family. I certified the death as due to chronic alcoholism and cirrhosis of liver. The husband took the certificate to the registrar, who refused to give Mr. Hardt the burial certificate, but told him the case must be referred to the coroner. Mr. Hardt was of course very indignant and blamed me for not having written the certificate in such a form that the registrar could not receive it. I told him my certificate was the usual one in such cases and during the last sixteen years I had many times certified in the same way, and no objection had been raised. In spite of my protest, however, the certificate was sent on immediately to the coroner's officer. I saw the coroner's officer early the next morning, and it was arranged that Mr. Hardt should see the coroner himself with reference to the matter. The coroner, however, would not see him, or did not. The same day I saw the coroner myself and asked him as a personal favour if he would send on the certificate as there could be no necessity for an inquest. I understood him to say he would forward it on in the morning. He, however, summoned me to attend an inquest the next day. The statement I wished to make at the inquest was to the effect that having known Mr. Hardt for many years as a highly respectable man I regretted that the coroner had insisted upon holding an inquest on his wife, and thereby subjecting his family to a very painful ordeal and exposure. From the evidence of Mr. Hardt, as reported at the inquest, it would almost appear as if he desired an inquiry, but what he said really implied a pardonable resentment towards me, and a desire to clear his own reputation at all risks. The verdict was in accordance with the medical certificate, with the trifling exception that delirium tremens was tacked on, which my patient never had. What I wish to know is whether the registrar was justified in withholding the burial certificate and the coroner in ignoring the medical attendant and his certificate too.

I remain, yours faithfully,

FRED. W. BLACKWELL, L.R.C.P. EDIN., &c.

Commercial-road, E., Sept. 18th, 1894.

*** Without the facts supplied by both sides we do not feel in a position to make more than general comment. It is the usual practice undoubtedly for a death certificate given by a qualified practitioner to be registered without reference to the coroner. This official has very properly in his absolute control the decision as to whether an inquest shall be held or not. Speaking in broad terms, we would say that it is better that one inquiry too many rather than one too few should be held. Moreover, in a case of death from chronic alcoholism the annoyance to the friends caused by such procedure is preferable to being subjected to direct aspersion or innuendo implying possibly a question of responsibility as to the ultimate cause of the death.—ED. L.

"THE CREMATION OF INFECTED AIR."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Sept. 8th you have some valuable remarks on the cremation of air. Twenty-four years ago, when a new wing was being built for the Geelong Hospital, I with difficulty persuaded the committee to include a male and female ward with bathrooms, attendants' rooms, and the usual annexes, for use as fever wards. These wards were immediately filled on completion. The ventilation arrangements were carried out by the architects under my direction in such a way that no air could escape without passing through fire. The wards filled with smoke would be cleared in a few minutes by the power. Though each ward was only calculated to receive six patients, according to the areas recommended by Parkes, I have treated as many as twenty cases in each ward during epidemics of the most malignant diphtheria, scarlet fever, measles, and typhoid fever, and in no case did the disease spread to any other ward in the institution. The idea was first suggested by the late D. B. Reid, M.D. F.R.S. Edin.

I am, Sirs, your obedient servant,

D. BOSWELL REID,

London, Sept. 18th, 1894. Late Senior Surgeon, Geelong Hospital.

"CHELSEA HOSPITAL FOR WOMEN."

To the Editors of THE LANCET.

SIRS,—May I be allowed to state that during the year 1893 I had two deaths in the Chelsea Hospital for Women after operations of all kinds. The two deaths resulted after curetting to remove placental débris. I have had no death in the hospital from any abdominal section since August, 1891.

I am, Sirs, your obedient servant,

Sept. 18th, 1894. FANCOURT BARNES.

"THE HYDERABAD CHLOROFORM COMMISSION."

To the Editors of THE LANCET.

SIRS,—Surgeon-Lieutenant-Colonel Lawrie in his paper read before the Royal Medical and Chirurgical Society, as reported by THE LANCET,[1] said: "I think I have shown that, while it is possible by proper attention to the respiration to give chloroform with uniform safety, no man can do so who dreads heart failure and takes the pulse as a guide." In my brief paper I compressed this proposition into: "Chloroform is perfectly safe when the respiration alone is watched." I regret any essential discrepancy. I base my assertion that this proposition cannot be felt to be experimentally proved on the results of Drs. Gaskell and Shore, and on their criticisms of the tracings shown to the society. In view of these I think that the question of the direct action of chloroform on the heart must still be considered an open one, and consequently that heart failure may still have to be dreaded. Surgeon-Lieutenant-Colonel Lawrie challenges me to prove that a distinctly different proposition has not been confirmed by experiment. This highly technical negative is beyond my powers.

I am, Sirs, yours faithfully,

Hertford-street, W. ARTHUR H. WARD.

THE ATMOSPHERIC CONDITIONS OF ELECTRICALLY LIGHTED LINERS.

To the Editors of THE LANCET.

SIRS,—Just at the completion of a nine days' voyage I wish to report that several passengers were severely affected with insomnia and an exhilaration to a very marked degree, and which were not relieved by the usual narcotics. These patients were of delicate, nervous temperament, and medical advisers and old sailor fellow-passengers assured them that their condition was caused by the exhilaration of the voyage salt water, &c; but to my mind the explanation is not satisfactory. I attribute it to an electrical condition generated by the machinery itself or by the dynamos used in lighting the ship. I would suggest that a most thorough investigation be made in that field by competent specialists with a view to affording the nervous victims some alleviation.

I am, Sirs, yours faithfully,

St. Louis, Mo., U.S.A. WM. N. MORRISON.

*** Continued proximity to the noise and vibration of machinery in motion may, no doubt, induce insomnia and similar conditions. It is necessary to speak guardedly of

[1] A Practical Treatise on the Sputum, p. 82. W. & A. K. Johnston, London and Edinburgh.

[1] THE LANCET, July 7th, 1894.

electrical possibilities; at the same time it is difficult to imagine that the plant used for electric lighting on board ship should have any effect different from that of other machinery. It may be remembered that a static discharge, a spark of considerable length, is often obtainable from the rapidly moving belt of a large machine. This is of frictional origin. But there is no evidence that the electrostatic stresses so produced will influence the living organism.[1] Then comes the further question: Are the conditions of living on board an electrically lighted ship such that the body may at times be in a chronic state of unconsciously short circuiting a leakage or other currents? It is difficult to realise such a possibility. It might, however, be interesting to know the system of wiring and distribution adopted in the ship in question. Before falling back upon the hypothesis suggested in the above letter, has the writer sufficiently eliminated other possible causes? Especially is he satisfied that the general electrical conditions of the atmosphere at the time were not sufficient to account for the symptoms named. Sleeplessness, headache, restless irritability are often observed in susceptible persons just before a thunderstorm. There is also evidence that the electrical conditions of the atmosphere, by affecting the "respirability of the air," or more probably perhaps by a direct influence on the nervous centres, is sometimes a factor in the causation of "heat apoplexy." Such points are little understood and not sufficiently studied. Even now, however, by their aid the electro-therapist feebly gropes his way to a rational indication for the use of the so-called "static bath." It is possible that electricity, both within us and around us, will some day throw light upon many a dark point connected with conditions both of health and of disease.—ED. L.

"NOTIFICATION AND PROFESSIONAL COURTESY."

To the Editors of THE LANCET.

SIRS,—I was considerably astonished to read the letter of a "General Practitioner" in THE LANCET of Sept. 8th; for after the amount of attention which has been given to this question, both inside and outside the profession, it is not easy to understand how any medical officer of health could so absurdly misconstrue his public duty as to act in the manner therein described. For my part I fail to see why any difficulty should arise between the public and the private practitioner after the Local Government Board has so frequently and so distinctly laid down the principles upon which the former should be guided. The reply quoted by you from the Local Government Board was one, I believe, obtained by me in answer to an inquiry made with a view to determine whether I was compelled to visit every case of infectious disease notified to me. It appears therefrom that unless we have "reason to believe that the certifying medical practitioner is not acting in good faith"—which, as you very properly remark, is "happily rare"—we are not called upon to interfere with our neighbours' patients except under such special circumstances as you have pointed out. Your correspondent asks if the sanitary board is responsible for such behaviour (as he describes) on the part of their medical officer. I reply certainly not, for the local board cannot override the superior board, the orders and instructions of which are, of course, paramount. There are few who will not sympathise with the treatment "General Practitioner" has received, and I am equally convinced, from personal knowledge, that there are not many medical officers of health who would have taken such an extreme view of what constituted their public duties. As to obtaining redress for the grievance specially complained of, I should advise your correspondent to lay the facts of the case before the sanitary authority for which the medical officer implicated acts, and this body, though possessing, strictly speaking, no responsibility in the matter at issue, may probably find some means of checking undue interference by appeal, if necessary, to the Local Government Board. If your correspondent will refer to the Infectious Disease (Notification) Act, Section III.(*b*), he will there find that "Every medical practitioner attending on, or called in to visit, the patient, shall forthwith, on becoming aware that the patient is suffering from an infectious disease to which this Act applies, send to the medical officer of health for the district a certificate stating the name of the patient, the situation of the building, and the infectious disease from which, in the opinion of such medical practitioner, the patient is suffering." Thus he will see the duty is imperative irrespective of what may afterwards occur as between the medical officer of health and himself.

There is much force in the remarks as to the delicate nature of the duties of a medical officer of health who is also in private practice; but, speaking from my own personal experience in a district where the Notification Act has been in operation from the first, I may say that I have never had the slightest difficulty or misunderstanding with any of my fellow practitioners. Without exception they have always given me the fullest information and the best assistance in my investigations; in fact, I have often received *carte blanche* from them in the conduct of inquiries, though I need hardly say I take exceptionally good care not to misuse my position by unnecessary interference.

I am, Sirs, yours faithfully,

A MEDICAL OFFICER OF HEALTH OF
Sept. 18th, 1894. EIGHTEEN YEARS' STANDING.

[1] The production of ozone by "sparking" may be incidentally remembered.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Thirlmere.

AT the last meeting of the council Sir J. Harwood said that the recent rainfall had raised the water to the twenty feet level—i.e., twenty feet higher than the original surface of the lake—and that the water was flowing over into St. John's Beck, its outlet at the north end of the lake. This had not been expected till November, or quite the end of October. If the works were not opened before winter, they would have to wait till next April at the earliest. In the meantime a long frost might place them in difficulty, as it had very much the effect of a long drought. Moreover, the engineer had warned them that there might be danger in the delay. It was proposed to open the works at Thirlmere and to invite the presence of the Prince of Wales or some member of the Royal Family. The Thirlmere works are at present the largest of the kind in England, and the abundant supply of good water will be an inestimable boon to Manchester and the district around. The dam at the north end of the lake is worthy of modern engineering skill and is impressive from its massive strength. Bearing in mind the outcry raised at one time against the barbarous Vandalism of the Manchester corporation, it is satisfactory to hear from unprejudiced observers that the beautiful scenery of the lake is improved rather than injured.

Salford Sewage and the Ship Canal.

The corporation of Salford has been much exercised by a statement in the report of the directors of the Ship Canal to the effect that, while they were assured that in a short time the whole sewage of Manchester would be prevented from entering the canal, they were concerned by the prospect of a continual heavy deposit from Salford and other districts. Alderman Walmsley, the chairman of the rivers committee and a member of the medical profession, protested against this charge and said that Salford prevented the heavy deposit from the whole of the borough—amounting to 240 tons daily, or nearly 90,000 tons a year—going into the river. Salford is certainly guiltless so far as the pollution of the docks is concerned, as the effluent enters the canal much below them, but though free from solid impurities the effluent is still putrescible. The costly experimental processes that have been tried for several years have, no doubt, been useful to many other places besides Salford, but the adoption of any one of them has not been decided on, and ancient methods, as I understand, are still used in treating the bulk of the sewage. The mayor stated, however, that in a very short time they expected to deliver a pure effluent.

Manchester Drainage Scheme.

Manchester is not in a position as yet to cast stones at her

neighbour. At the last meeting of the Mersey and Irwell Joint Committee it was stated that the total area coupled up with the main drainage system is at present 4153½ acres, containing a population of 269 865. "The remaining area to be dealt with contains 8756½ acres and a population of 235,503." A great deal, therefore, still remains to be done. It was said at the meeting that, "with the exception of the drainage affecting about 60,000 out of 500,000 inhabitants, the whole drainage of the city would be connected by the end of May next year, before the hot weather came." It seems that the whole of the contracts are let, and will, it is expected, be completed in twelve months.

Killed by Overwork.

Great engineering works take toll in human life, and the Ship Canal has been no exception. Perhaps the most noteworthy victim has been the late Mr. Saxon, the solicitor to the company from its earliest days. All the local papers have contained notices of his death and have pointed to the same moral. One says: "Perhaps, however, only those who came in frequent contact with him throughout the three years of the Parliamentary contest for the Bill, and subsequently during the anxious and most critical period of the raising of the capital, and later on in the endless cases of arbitration and litigation which arose during the period of the construction of the canal, can form any idea of the tact and skill with which he piloted the scheme through the many dangers which beset it—internal as well as external; of the ceaseless, almost passionate, devotion he bestowed upon every department of the work; of the thoroughness with which his cases were got up and his briefs prepared; or of the vast sacrifices of time and labour these things entailed upon him." For many years he gave himself up absolutely to the work of the Ship Canal, day and night—up to midnight and the small hours; and, as the notice from which I have quoted says with undoubted truth: "The breakdown of his health and premature death are attributable to overwork." He was a strong man, of calm temperament and much brain power, and felt himself equal to any amount of work. He disregarded therefore, professional advice and the entreaties of his friends, till he broke down in mind and body, and died aged forty-three, before he saw the completion of his labours. This sad story needs no words of application.

Deaths from Paraffin Lamps.

A deplorable accident occurred in Salford on Friday morning from one of these lamps. It was left burning in a room in which a father, mother, and three children were sleeping. From some cause it exploded; the children's bed was set on fire, and the three were so burned that two died in a few hours, while the third lingered till next morning. The father also was taken to the hospital severely injured, while the mother did not escape scatheless. Another similar accident, but unattended with loss of life, happened in Salford on Saturday night. These lamp accidents are so frequent that it seems time for some regulations to be put in force as to their being provided with automatic extinguishers. Explosions might not be altogether prevented, but they would be less frequent, and the much more numerous accidents from the upsetting of lamps would cease, while they would be rendered less deadly as offensive weapons—a use to which they are now frequently put. But the great public is apathetic in the matter.

Sept. 13th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Another High Death-rate at Morpeth.

THE medical officer of health, Mr. Skrimshire, has reported that the death-rate for the month was at the rate of 26 per 1000 of the population. Diarrhœa, phthisis, and scarlet fever had prevailed. He deprecated the habit persisted in by enthusiastic schoolmasters of calling at the infected homes of their pupils. The school attendance officer is kept informed in all cases of necessary absentees, and no one else should interfere.

The Royal Infirmary and the Bishop Designate of Thetford.

The following was ordered to be entered on the minutes of the institution: "The committee of the Royal Infirmary, Newcastle-on-Tyne, desire to place on the record of their minutes an expression of their sense of the valuable services which have been rendered to the institution by the Rev. Canon Lloyd, D.D., vicar of Newcastle, as a member of the house committee during the period he has been resident in this city, and their regret that they will shortly be deprived of him as a colleague, which has been occasioned by his appointment as Bishop of Thetford. The committee desire to offer to Canon Lloyd their sincere and hearty congratulations upon his preferment, and their hope that he may have every blessing and happiness in his new episcopal position."

Carlisle Sewage Question.

The town council of Carlisle has held a meeting and considered the peremptory letter of the Local Government Board refusing a loan for new sewers until a sewage scheme had been adopted which would put an end to the pollution of the Eden. It was pointed out that the money for which application was made was absolutely necessary, and that, indeed, some of it had already been spent. A member of the finance committee said there was no need for a loan, and that with the large profits which they had received this year from the gas and waterworks they could afford to pay for the sewers out of current revenue, and therefore that they need not borrow the money. A special committee was appointed to consider the whole question of sewage disposal in a dispassionate manner, and in the meantime it was understood that the sewers in course of construction &c. should be completed.

The Thirlmere Water Scheme.

The recent heavy rainfall had brought so much water into the lake at Thirlmere that the twenty feet level had been reached. For this reason the waterworks committee had considered whether it would not be advisable to bring the water to Manchester earlier than was anticipated. It was proposed to open the works next month, and to invite the Prince of Wales to perform the opening ceremony at Thirlmere, which is about 100 miles from Manchester. His Royal Highness has, however, been obliged to refuse the invitation.

Teesside Water.

At the monthly meeting of the Stockton and Middlesbrough Water Board, held at Middlesbrough, the engineer to the board reported progress at the works in Baldersdale and said the pure water-supply from the valley of the Balder would certainly be available by the end of this year.

The Alteration of Bambrough Castle.

Some weeks ago it was announced in these notes that Lord Armstrong had purchased Bambrough Castle and was about to convert it into a home for decayed gentlewomen, or for some such charitable object. It is a place of great historic interest. Standing on the sea coast close to the shore, where it has stood for between thirteen and fourteen centuries, it is a picturesque object and is much frequented by archæologists. The work of adapting the castle to its new purpose is now in progress.

Newcastle-on-Tyne, Sept. 19th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Medical Officership of Leith.

THE Leith Town Council have appointed Dr. Leslie Mackenzie to be medical officer for the burgh. He has held the corresponding post in the counties of Kirkcudbright and Wigtown since 1891, and previously to that he had experience of public health matters in the town of Aberdeen. He is a distinguished graduate of Aberdeen in arts and medicine. Leith may be congratulated upon her choice; but it is to be regretted that, in making an appointment of this kind, there should not have been more harmony. It might be thought that a body of public men, if they could not agree, might, for the sake of public decency, agree to differ. We should almost fear that the new medical officer will not find his post a bed of roses; but it will afford plenty of scope for tact and judgment.

Edinburgh and District Water-supply.

A report has been submitted to the Edinburgh and District Water Trust on the various schemes of additional water-supply. The Manor, the Tweed, and St. Mary's Loch scheme are all reported on, and a new scheme connected with St. Mary's Loch is submitted. When these come under

discussion their relative merits and demerits will doubtless receive full attention. Meanwhile, it is matter for congratulation that no precipitate action was taken when there was a certain amount of alarm as to the possibility of the water-supply being inadequate and before reliable information was forthcoming regarding the different schemes.

Charge under the Notification Act in Scotland.

Mr. Alexander Henderson of Partick, Glasgow, was charged last week before Sheriff Guthrie with not having sent a notification of a case of scarlet fever till June 12th, though the notification was dated June 4th. The sheriff was of opinion that it had not been proved that the 11th was not the date when Mr. Henderson became aware that the patient was suffering from an infectious disease. He found the charge not proven, and dismissed the case.

Sept. 18th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Health of Dublin during August.

As compared with the previous month the fatal cases of small-pox showed an increase of 8, and there were also considerable increases in the deaths from both typhoid fever and diarrhœa. During the four weeks 93 cases of small-pox were admitted to hospital as compared with 17 cases during the previous month. The death-rate from all causes was 3·21 per 1000 persons living, below the mean rate for the corresponding period in the previous ten years, while the zymotic death-rate was also 1·17 below the average. The only unfavourable feature of the month was the large increase in the number of small-pox cases. In May last there were 5 cases, in June 12, in July 17, and in August 93, making a total of 127. The deaths during this period numbered 12, or slightly under 10 per cent. of the cases. The disease had been almost wholly confined to the north side, and some of the few patients residing on the south side seem to have contracted the disease from persons living on the north side. Up to Aug. 31st the disease had appeared in 43 different streets. It is stated that two cases have occurred in Kingstown, but I cannot verify the report.

Queen's College, Galway.

During the Session 1893–4 120 students attended lectures, of whom forty-six belonged to the faculty of medicine. The progress of the medical school has been materially aided by the facilities now afforded by the new Galway Hospital, founded by Act of Parliament in 1892. Arrangements have been made by the medical professors for the instruction of students at the union and fever hospitals, and at the Galway dispensary. The opportunities thereby afforded have placed the clinical teaching on a satisfactory basis, and have received the recognition of the licensing bodies in medicine.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Hygienic Conditions of the Paris Lycées.

AMONGST the papers read at the Budapest Congress there was one on the above subject by Dr. Régnier of Paris. Be it understood that that practitioner was referring to the great public schools of the metropolis—a city which patriotic but untravelled Frenchmen delight in dubbing "la Ville-Lumière." The naïveté of Dr. Régnier's conclusions will amuse the Englishman, whose progress in such matters is much beyond that of his Gallic neighbour. After calling attention to the defective conditions obtaining in the older colleges he says that the more recent buildings come up to the mark so long as—(1) no overcrowding is allowed; (2) access to class-rooms is forbidden until after the said rooms have been ventilated for a quarter of an hour after the egress of the preceding class; (3) the maximum duration of studies is, for the older pupils, ten hours, and for the younger from eight to six hours daily—one half-hour to be allowed for the toilet, two hours a day for gymnastics, riding, shooting, or fencing, and three hours and a half daily for games or walks; (4) the installation of *bains-douches* is extended to all colleges, and their employment by boarders, half-boarders, and out-door pupils at least once weekly is rendered compulsory; and (5) the parquet flooring in the infirmary is replaced by tiles easily washable. Dr. Carl Hintrager of Vienna, in commenting on the preceding remarks, laid it down as an indispensable condition that no school should be without washhand basins and baths. It may not be generally known that riding on horseback is very generally taught in the large schools of Paris. Troops of older boys may frequently be seen in the streets flourishing riding-whips and dressed in riding-breeches.

The Health of Paris.

Never since 1880, when weekly health reports began to be supplied to all Paris practitioners, has the health of the French metropolis presented such favourable features as it did during the first week of this month. From the 2nd to the 8th inst. the deaths registered were 693, as against 761 the preceding week, and an average of 991 (average for September during the last five years). The thirty-fourth week, with 765 deaths, was nearly as favourable, but the mortality during the week in question (Sept. 2nd to 8th) was only 14·8 per 1000. Typhoid fever was only responsible for 3 deaths (6 the previous week and 16 the average); small-pox 1 death (average 2); measles also 2 deaths (preceding week 6 and average 15); diphtheria, 12 deaths (previous week 14, average 21); whooping-cough, 5 deaths (average 7). No death occurred during this and the preceding week from scarlet fever. Infantile diarrhœa caused 80 deaths (67 the previous week, an average of 115). There is a diminution in the mortality from diseases of the respiratory organs, and phthisis claimed only 142 victims instead of the average 175. At the risk of appearing verbose I quote the foregoing figures in order to reassure my compatriots, amongst whom the belief is very general that Paris is a fever-den. If tourists were careful to avoid over-fatigue and irregular hours for meals and sleep, their estimate of the salubrity of this city would be greater than it is at present. The consumption of greasy messes and bad wines at inferior restaurants will also, according to my experience, suffice to account for much of the work we English physicians find amongst our travelling fellow countrymen.

Is Bicycling a Healthy Exercise?

Nobody who has observed the formidable extension bicycling has taken in Paris will be surprised that that pastime has furnished a theme for discussion on two occasions at the Academy of Medicine. The ball was first opened by Dr. Petit who startled the world by announcing three sudden deaths from heart disease occurring in persons engaged in this exercise. Heads were shaken ominously at this announcement, and this most agreeable and useful pastime was uncompromisingly condemned by members, the majority of whom, it is safe to say, never mounted a machine in their lives. At the next meeting the cudgels were taken up for the wheelmen by an enthusiastic bicyclist, Dr. Hallopeau, physician to St. Louis Hospital. THE LANCET has already commented on the attitude of the Academy towards this question, but I think it will be of interest to append the exact text of the resolutions which Dr. Hallopeau succeeded in inducing his *confrères* to adopt after an animated discussion:—"1. Chez un sujet expérimenté l'usage modéré de la bicyclette ne trouble en aucune mesure les fonctions cardiaques. 2. Son rôle dans la production de morts subites ne peut être que celui d'une cause occasionnelle d'importance secondaire; l'expérience seule peut démontrer l'influence de la bicyclette dans les cas de mort subite chez les cardiaques. 3. C'est surtout chez les malades atteints d'insuffisance aortique ou d'affection mitrale non compensée que l'interdiction doit être absolue. 4. Les efforts liés soit à l'apprentissage, soit à la course trop rapide, soit à l'ascension des côtes doivent être seuls considérés comme dangereux. 5. L'Académie accueillerait avec faveur tous les documents qui pourraient venir éclairer cette question."

Sept. 18th.

Obituary.

ADOLF MEYER, M.D.

A VALUABLE life has been lost to the public and to the profession by the recent death at Leipsic of Dr. Adolf Meyer, whose later years were spent in Florence in the practice of ophthalmic surgery. He was born in 1834 at Gückstadt

near the mouth of the Elbe, and his proximity to the North Sea awakened in him when yet a boy an ardent love of maritime adventure. With this he combined a considerable linguistic faculty and an enthusiasm for nature-study, so that on leaving the Gymnasium he was equipped with every qualification for voyages of exploration in tropical and subtropical latitudes. His first expeditions were to the Spanish Main, and from these he returned to Hamburg so accomplished in navigation that at the age of nineteen he passed with distinction the examination of the naval school in practical and scientific seamanship. China and Australia were successively his destination, but by this time his passion for nature-study overcame his maritime predilection, and, with further advance in its pursuit, he turned his energies to the studies, particularly anatomy and physiology, underlying the art of medicine. He enrolled as a medical student at Kiel, and passed through the curriculum with brilliant success. Surgery was at first the department he preferred, and he became assistant to Professor Esmarch, whose innovations and ideas inspired him with an almost consuming devotion to the art, on its clinical side especially. Having passed the State examinations for the M.D. degree, *summâ cum laude*, he repaired to Shanghai and there applied himself with characteristic zeal to the study of the local epidemics. In addition to an extensive private *clientèle* he assumed the post of sanitary director of the city hospital, and spared no effort in ameliorating the defective hygienic conditions of the place, while relieving with philanthropic self-sacrifice every case of disease among the lower population that came under his cognisance. In this work his health broke down in 1867, and he had to leave the enterprise on which he had entered, not, however, before earning the gratitude of the people of Shanghai of all nationalities for the impulse he had given to sanitary reform and to medical advancement in nearly all its branches. Invalid as he was in 1870, when the Franco-German War broke out he threw himself, like Billroth and others of his professional standing, into the field hospital service, and rendered such valuable aid to the wounded under fire and in ambulance that on the declaration of peace he received from the German Government the Iron Cross in acknowledgment of his work.

His next step in professional activity was his entering on the study of eye diseases with a view to practise in that branch of the profession. Having qualified himself as an ophthalmic surgeon he settled in Hamburg and had steadily risen in public confidence as a consultant and operator till 1879, when his health, so severely strained at Shanghai and in the Franco-German campaign, admonished him to seek a warmer climate than that of the North Sea city. He accordingly repaired to Florence, where again his skill in ophthalmic affections attracted a large *clientèle*, while the reputation he acquired in the consulting-room was enhanced by the scientific papers he read or published on the obscurer cases that came under his notice. Residence in the City of Flowers, moreover, had special charms for him, his love of nature and art finding congenial gratification in the lovely scenery and the numerous collections of painting and sculpture of the Tuscan capital. He was himself something more than a connoisseur in colour and design, as his portfolios abundantly testify, while his skill in music formed another resource with which, like Billroth, he solaced his leisure and delighted his friends; gradually, however, the energy with which he utilised his powers told upon his health, which, indeed, was never the same after his experience of Shanghai, so that last summer he repaired, under high professional advice, to Franzensbad. But the famous Bohemian spa did him no appreciable good, and on leaving it for Leipsic he felt that he was making his last journey. Cardiac disease had by this time supervened to complicate his symptoms, and after every care which the skill of the local school and the affection of his brothers could bestow upon him he was "called to rest" in his sixty-first year. His death leaves Florence distinctly the poorer, not only in an able and accomplished practitioner and in a kindly artistic spirit, but in a philanthropic soul which knew no distinctions of race or rank, of party or of creed.

DEATHS OF FOREIGN MEDICAL MEN.—The deaths of the following members of the medical profession abroad are announced:—Dr. Zacharias Reimann, the *doyen* of Berlin practitioners, having taken his degree in 1824. He published a work some fifty years ago on the "Curability of Consumption," and his practice in Berlin was chiefly devoted to chest affections.—Dr. Josef Podrazky, the chief of the Austrian Military Medical Staff Corps, at the age of sixty-four. He had been for the last few years much engaged in reorganising and improving the medical service of the army.—Dr. Friedrich Heinrich Bidder, formerly Professor of Anatomy and Physiology in the University of Dorpat.—Dr. F. Mazzitelli, Professor of Dermatology and Syphilography in the Messina Medical School.

THE EIGHTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

(FROM OUR SPECIAL CORRESPONDENTS.)

THE Congress which has so recently closed certainly took—whether for good or for ill there will be considerable difference of opinion—a wide and liberal view of the range of subjects properly appertaining to what is hygienic and demographic.

Whatever opinion may be entertained of the debate upon the Hours of Labour, an abstract of which we give in this issue, and of Dr. Zinger's resolution, it remains a most significant fact that the Section in which the discussion took place was, in spite of the presence of manufacturers and representatives of Chambers of Commerce, quite unanimous in their approval of the short working day. Of course medical men have always been to the fore in demanding the reduction of the hours of labour; but we do not so often see the manufacturing interests in accord with these principles.

At the general assembly of all the Sections of the Congress the same unanimity was not, however, manifest. There were several persons present who, not having assisted at the discussion in the Section, saw in it merely a political manœuvre. The Chairman of the Section, Dr. Löwe, suggested that it would suffice for the moment if the general assembly of the Congress merely took note of the resolutions without voting upon them. As this did not seem to satisfy some of the members present, and as discussion on the merits of the question was not possible in the general assembly, Dr. Löwe subsequently offered to withdraw from the general assembly the resolutions of his Section, contenting himself with the fact that they had been passed unanimously in his Section. There was, however, a small knot of delegates present who were not satisfied even with this. They objected to give Dr. Löwe leave to withdraw the resolutions, being anxious to vote against them there and then, so that it should be said that the general meeting had rejected and thrown aside the work of the Section. This *intransigeant* attitude naturally brought about its own discomfiture, for on the vote being taken the Congress by a large majority gave Dr. Löwe leave to withdraw his resolutions and thus refused to take part in the suggested aggressive attitude against the work of the Section. This vote also meant that discussions on the legal limitation of the hours of labour was considered well within the province of a sanitary congress; indeed, such discussions have been held at all the previous International Congresses of Hygiene.

"I have already pointed out," writes one of our Special Correspondents, "that the general assembly can only be described as a failure. Subsequent inquiry has shown me that a large number of member of the Congress did not know that it was about to take place. It had been announced; every day a sort of journal was published giving general notifications and programmes of proceedings. But the announcement of the general meeting was only published on the Saturday morning at the last hour, and there were so many other things printed at the same time that it escaped the notice of many delegates. Then there were excursions and meetings of all sorts taking place

on the same afternoon. Of course, for such an important solemnity announcements should have been made throughout the week and care taken that nothing else whatever was done on the Saturday afternoon. Then there might have been present a thousand or more members, and the vote of such an assembly would be considered impressive and influential. Yet, on the other hand, it was perhaps very fortunate that so few persons attended. From the chair it was stated that 120 members were present at first; this figure soon fell to 80, and finally dwindled down to 44. The meeting, though it lasted more than three hours, could scarcely get through its work; and, of course, if there had been more persons present progress would have been even slower. As it was, progress was only achieved by speaking very generally in French. Some very excellent resolutions, notably one on the hours of labour among railway servants, were ruthlessly rejected simply because their promoters had them read out in German, and in default of translation, the majority not understanding what they were about, did not rise when called upon to give their approval. One good work the general assembly did accomplish: it unanimously, and on principle, threw out all the resolutions from the Pharmacy Section. Pharmacy had nothing to do with hygiene, which meant preventive medicine and not medicaments used in curative medicine. On this point the general assembly could vote without any discussion, but how can any assembly vote on more than a hundred resolutions which it has not discussed? It is no use saying that these resolutions have been carried by the Sections; when there are twenty-six Sections it means mathematically that 4 per cent. on an average of the persons present have heard the discussion which led to the adoption of the resolution. In practice it means much less than 4 per cent. of the audience. The value of votes given without discussion and in ignorance of the discussion that has taken place is really of very little importance. This experience proves that henceforth this must be abandoned. Each Section must be content with the work done in the Section; but there is no reason why general assemblies should not be held, as they used to be held, to discuss great questions selected by the organising committee, and a vote after such debate would be of decided value. The numerous persons to whom I have spoken on this point agree with this view. The general feeling is that in future the number of members attending these congresses must be very considerably reduced, that there must be fewer Sections, and fewer subjects discussed. About five hundred members would constitute a manageable Congress, in which real good business would be done. Otherwise if the present system continues the Congresses will degenerate into a sort of bazaar."

THE SECTIONS.

SECTION OF DEMOGRAPHY.

The Hours of Labour.

In the Demographical Division of the Congress the question of the Eight Hours' Day was introduced by Dr. Zinger, Professor of National Economy at the Vienna University. He gave a general description of the development of industry in England, and pointed out how the physical and moral degradation resulting from overwork is of modern origin. Formerly there were more holidays, and in England eight hours' work a day was the general rule. The change, the increase of the hours of labour, was brought about by the introduction of steam power. Then we began to hear of excessive hours of labour, of the physical consequences, the misery of the workers, and the lowering of the standard of the race. This grievance became so urgent that the Legislature had to interfere, and the British Parliament in 1833 fixed twelve hours as the maximum day's work for women and children. Soon followed the celebrated struggle for the twelfth hour. The workmen wanted to reduce the day to eleven hours, but the employers maintained that it was precisely the twelfth hour that constituted their profits. Some employers, however, were of quite a different opinion, and a large French employer said to M. Guizot that the twelfth hour had ruined him. During that hour the workers were so exhausted that they spoilt a great deal of material and produced very little. The day was reduced successively to eleven, then to ten, and now, in England, a nine hours' day is the rule. Experience has proved that all these changes caused at first a reduction in the amount of production, but that in a short time there was the same output as before the reduction in the hours of labour. In other countries besides England experience also demonstrated that the intensity of work possible with short hours compensated in the quantity produced for the loss of time devoted to production. Many factories where employers, from motives of humanity, required less than the legal maximum of hours' work had shown this to be the case. The eight hours' day is now before Europe; it is one of the great questions of the moment. In America ever since 1868, and in England more recently, the eight hours' day has been introduced in Government workshops, and this, Dr. Zinger maintained, with the best results. Many private employers have imitated the Government. We had to consider the social, the moral, and the hygienic aspect of the question. The speaker then quoted the experience acquired in Victoria, Australia, where the eight hours' day was inaugurated in 1856. Here the objection that the workers would employ their spare time in drinking had been triumphantly refuted, for since the introduction of the eight hours' day in the Australian colony there had been less alcoholism and less crime in Victoria than in England. The public library at Melbourne, where there is a population of 70,000 inhabitants, has half as many readers as the British Museum in London, though the latter institution is surrounded by a population of about 5,000,000. It was also very essential not to forget that in England, during the great cotton famine, the mortality of children among the Lancashire cotton weavers and spinners was not so high as usual. This was due to the fact that mothers, being no longer able to work at the cotton mills, had more time to attend to their children. As for the fear of foreign competition, Mr. Mundella had said that the excessive hours worked abroad afforded British industry the best protection, because in the production of children foreign nations were degenerating; but with an eight hours' law the health and intelligence of nations would improve. The reasons in favour of an eight hours' law need not be repeated; they had been brought forward as long ago as 1817 by the great British social reformer, Robert Owen. With modern mechanical appliances more than eight hours' work was not necessary.

This speech was warmly applauded, and at its conclusion Herr Czermack, delegate of the Chamber of Commerce of Reichemberg, in Austria, endorsed the resolution brought forward by Dr. Zinger.

Herr Matitock, the head of a very large lace factory, related that he had introduced the eight hours' day in his factory ever since the year 1883. As formerly his workpeople worked much longer hours he had to increase their wages to the extent of 20 per cent., so that they should not be impoverished by the reduction of hours. The results were, nevertheless, favourable, and he did not regret the step he had taken. All he could urge was that, in his opinion, the suppression of night labour seemed to him, from the health point of view, even more urgent than the eight hours' day.

Professor Zinger's resolution was then put and carried unanimously by the Section. It read as follows:—

"The Eighth International Congress of Hygiene and Demography, considering the beneficent results due to the shortening of the hours of labour which have been observed, and considering the pernicious consequences of night work, accepts in principle the eight hours' day and the abolition of night work, and requests all civilised countries to endeavour by legislation to gradually enact that eight hours shall be the limit for work in all trades. Legislatures should also prohibit night work, except where general public considerations require it."

When this resolution was carried the President of the Section, Dr. A. Löwe, related that he had sought to obtain, as a reporter on this question, a medical man employed in a factory. He had made many applications in different parts of Austria, but could find no factory medical man willing to undertake the task. None of these medical men could in conscience report against the proposed eight hours' day, and none dare speak in its favour for fear of losing their employment.

SECTION OF DOMESTIC HYGIENE.

Hygienic House Building.

In this Section an animated but abortive discussion arose out of Professor Corfield's proposals, though these were quite of an elementary character. Professor Corfield's resolutions demanded the frequent removal of all foul matter and a copious supply of pure drinking-water; pavements should be smooth and so made as to protect the soil from contamination; there should be damp-proof courses to prevent

damp, and watertight, disconnected, and trapped drains; sewers should be well-ventilated and flushed; no street should be less than twelve metres wide; not less wide than the height of the houses, nor should houses be built back to back. It was the latter suggestion which provoked the most opposition. It was pointed out that under the latter clause nearly every house in Paris would stand condemned. As a matter of fact they are condemned, whatever the Congress may say on the subject, and this notably by the great French author Zola. No one could have more powerfully described the moral and material foulness, the fearful insanitary condition, of the backs of Parisian houses than Zola in "Pot Bouille." The little shaft, or back yard, six storeys high, and often barely twelve feet square, where closet windows face kitchen windows, and all the filth of the household defile what little air there is, is the subject of the author's scathing description, and it is surprising to find that at the Congress there were French delegates who hesitated to condemn this abomination. But Professor Corfield would not yield on any point, and ultimately withdrew his resolution on the understanding that a committee would be appointed to report to the next Congress on the subject. This committee will consist of Professor Corfield and Mr. Cates of London; and Dr. Fodor, Hungary, Dr. Andreas Meyer of Hamburg, M. Becheman, Engineer of the town of Paris, Dr. Berger of Vienna, Dr. Lindley of Frankfort, and Dr. A. J. Martin of Paris.

The Rates of Mortality in Artisans' Block Dwellings.

Dr. A. Newsholme presented a note on this subject at the request of Herr Körösi. Dr. A. Newsholme brought up to date and modified certain statistics given in a paper read before the Royal Statistical Society of London in 1891. The necessary corrections for age distribution and for deaths in outlying institutions having been made, it was shown that for the four years 1886-89 the general death-rate of the Peabody buildings was 18·8, as compared with 19·6 for London, 25·6 for its central districts, and 26·9 for its eastern districts. The infantile mortality for 1893 was 126 per 1000 births in the Peabody buildings, 164 in London, and 185 in the central districts and 175 in the eastern districts of London. As regarded infectious diseases, enteric fever was only about half as prevalent as in the above districts of London; the mortality from diarrhœa was also lower, and that from diphtheria was slightly higher; while scarlet fever, and still more measles and whooping-cough, were more fatal in the Peabody buildings than in the above-named districts. There was no excess of tuberculous diseases in the Peabody buildings. Comparing the Peabody buildings with Battersea, tuberculous diseases, taken together, were more fatal in the latter; while infantile mortality, enteric fever, and diarrhœa were also lower in the Peabody buildings than in Battersea. In addition to the above general results, the preceding facts showed that increased aggregation of population in a given area did not necessarily involve an increased death-rate.

Dwellings built in Blocks by the London County Council for Persons of the Working Class who are displaced by the Clearance of Insanitary Areas.

Mr. Thomas Blashill, F.R.I.B.A., F.S.I., the Architect of the London County Council, read a paper on this subject. "For many years past," he said, "it has been evident to all persons who have studied the condition of the poorer portion of the town population of England that great evils have been caused by the crowding of large numbers of inhabitants upon very small areas, and by the unwholesome condition of many of the houses in which such people live. Acts of Parliament have been passed with the object of clearing unhealthy areas and providing healthy dwellings for their inhabitants. During the time that these Acts of Parliament have been in operation the Metropolitan Board and the Council have caused the erection of a large number of new buildings. As an illustration of the mode of dealing with an unhealthy district I present plans of the Boundary-street scheme, which deals with an area of fifteen acres in extent, in the parish of Bethnal-green, and involves the demolition of 728 houses, and the closing and removing of twenty streets. The whole of the fifteen acres will be entirely cleared of buildings with the exception of two churches, three elementary schools, and one large factory. It has been replanned on the radiating system of streets. A circular garden 270 feet in diameter will occupy the centre of the area, and from this seven avenues, varying from fifty to sixty feet in width, radiate, the buildings being arranged upon the intervening sites. Great care is being taken in the development of this area, to render it a good example. This is the largest scheme that has been undertaken under these Acts of Parliament. Its object is, moreover, almost entirely confined to the provision of better dwellings, and it has not been to any material extent affected by the need for better and more direct thoroughfares, a matter which has largely influenced schemes of this kind. Although this district is situated within one mile of the centre of the City of London, its inhabitants were of the poorest class, a whole family frequently living in a single room. The streets were narrow, the spaces at the backs of the houses were also narrow, and they had in many cases been made still worse by the erection of buildings used for trade and manufacture. The houses were old and dilapidated, the rooms were dark, dirty, and unwholesome, and the inhabitants were subject to the diseases resulting from these conditions. Many of the inhabitants were of a very low type, but many were of the honest working class. For the four years ending 1889 the average mortality on this area exceeded 40 per 1000, whereas the average mortality of the parish of Bethnal-green, in which this district is situated, was no more than 22·8 per 1000. That of registration London for the same period was 18·8 per 1000. In the first of the group of Acts for the Housing of the Working Classes it was provided that the total number of persons turned out of unhealthy districts should be provided with dwellings upon land within the same district or in its vicinity, but it was soon discovered that this could not be done. By the Act of Parliament of 1890 the Home Secretary is empowered to sanction a scheme which provides dwellings for one-half the number of persons who will be turned out, and this is sometimes the largest number that can be provided for; but in the Boundary-street scheme new dwellings will be provided for 4700 persons, the number turned out being 5719.

"The first consideration in the design of new buildings is as to the kind of dwellings that may reasonably be provided, and I limit myself to a description of the dwellings provided for families in the buildings now being finished or that are being designed for the London County Council, their design being largely founded upon a study of the most successful buildings that have been erected in London during recent years.

"1. Self-contained dwellings.—The dwellings consist of one room, two rooms, three rooms, and four rooms respectively. Of these the one-room dwellings are very few, and it is my opinion that, except where they can be provided very conveniently, they need not be provided at all. A family of two persons can very readily find accommodation elsewhere. The chief need is for dwellings of two and three rooms, in which families of four and six persons can be accommodated. Three-room dwellings are most required, because a family with four children has great difficulty in finding accommodation. It is probable that, for similar reasons, four-room dwellings would be useful; but the number of families having six children is not so large, the older children may be earning wages, and such a family may be able to take a small house. There are certain qualities which family dwellings of the smallest class ought to have. These qualities must vary in different places. In London a self-contained dwelling should be entered directly from a wide passage or from the landing of the staircase. The stairs and landings should be at least 3 ft. 6 in. wide. This entrance is in fact the outer door of a house. The Council demands that all habitable rooms should be at least 8 ft. 6 in. in height; the family living-room must have a floor measurement of at least 144 superficial feet clear of all fire-places and other solid obstructions; the bedrooms must measure at least 96 superficial feet; a small scullery with a sink, copper, and towel-roller must be attached to each living-room; and beyond the scullery there must be an open lobby through which access can be got to a water-closet. The water-closet is thus entirely cut off from the house. Although the water-closets are separated from the house by an open lobby, great care has been taken to make the drainage practically perfect. The closets are of the type called "wash-down," solidly set in concrete; they are flushed with two gallons of water, but three gallons would be in many cases more effectual. The soil-pipes are taken outside the buildings; they are thoroughly ventilated so as to disconnect them from the sewers. The waste-pipes from scullery sinks are treated on the same principle. It is possible that dust-shoots will have to be provided so that the dust and dry refuse from each dwelling will be poured down

these shoots; but it is hoped that the parish authorities may be induced to remove the dust in iron pails daily or at frequent intervals from each dwelling.

"With regard to cost it has been the wish of the London County Council to provide these dwellings at the lowest possible rate, and, if possible, at such rates as the persons who have been turned out of the unwholesome dwellings could afford to pay. In some cases this object has been attained, in other cases it has not been possible to attain it.

"(2) Associated dwellings.—Upon consideration of the whole question it is thought that the Council should in the future provide a considerable number of these dwellings of a cheaper kind than those which it has hitherto built. In them each separate dwelling will generally consist of a living-room with one bedroom, or a living-room with two bedrooms; but it is probable that a few single-room dwellings may be provided, and it may be convenient in special cases to attach three bedrooms to a living-room. In these buildings there will be a common scullery for the use of all the dwellings on one floor. In this scullery a sufficient number of sinks will be provided, and from it the waterclosets for women and young children will be approached. Waterclosets for men will be provided in another place. It will be possible to provide facilities for washing clothes in connexion with the common sculleries, or in washhouses built upon the tops of these dwellings; but no decision upon this point has been arrived at, and it is possible that a laundry may be built in a central position upon the Boundary-street area for the use of the whole of the dwellings. In that case no arrangements for washing clothes will be provided in any other dwellings that may in future be built upon this area."

Medical News.

UNIVERSITY OF DURHAM.—FACULTY OF MEDICINE.—The following candidates have passed the examination for degrees in Medicine and Surgery at the College of Medicine, Newcastle-upon-Tyne, in September, 1894, being the first examination for the degree of Bachelor in Medicine:—

Elementary Anatomy and Physiology, Chemistry with Chemical Physics, and Botany with Medical Botany.—Maurice Dale Wood, College of Medicine, Newcastle-upon-Tyne.

Chemistry with Chemical Physics, and Botany with Medical Botany.—Herbert James Godwin, St. Bartholomew's Hospital; Bernard Charles Green, St. Bartholomew's Hospital; Marcus Sinclair Paterson, M.R.C.S., L.R.C.P., St. Mary's Hospital.

Botany with Medical Botany.—Henry Edward Montgomery Baylis, St. Bartholomew's Hospital; Ernest Bramley, Sheffield School of Medicine.

The following candidates have satisfied the examiners under the new regulations:—

Elementary Anatomy and Biology, Chemistry, and Physics.—Honours, First Class: William Byron Milbanke, College of Medicine, Newcastle-upon-Tyne. Honours, Second Class: Henry Coxon Coxon, John Maxwell Gover, and George Grey Turner, of the College of Medicine, Newcastle-upon-Tyne. Pass List: Joseph Ellis Baker, Frank Wilfred Burn, Frank Anthony Cooke, Leopold Stanley Davison, Douglas Hethcote, George Whitson Middlemiss, Francis O'Neil, Claud Maxwell Pennefather, and William Greenwell Robson, all of the College of Medicine, Newcastle-upon-Tyne.

Elementary Anatomy and Biology.—Allan Mackie Garnock Walker, College of Medicine, Newcastle-upon-Tyne.

Chemistry and Physics.—William Cowan Brown, College of Medicine, Newcastle-upon-Tyne; Charles Edward Fenn, King's College Hospital; Henry Adamson Fielden, Lawrence Fielder Hemmans, and Charles Johnson, College of Medicine, Newcastle-upon-Tyne; Francis Pope, Mason College, Birmingham; Arthur Riley, Westminster Hospital; John Aston Swindale, Mason College, Birmingham; and Arthur Wren Tuxford, St. Mary's Hospital.

FOREIGN UNIVERSITY INTELLIGENCE.—*Clausenburg:* Dr. Karl Hoor of Budapest, a military surgeon, has been appointed Professor of Ophthalmology. — *Cordova (Argentina):* Dr. A. O. Lamas has been appointed Professor of Histology.—*Nashville, Tennessee (Vanderbilt University):* Dr. Charles S. Briggs has been appointed to the Chair of Surgery; Dr. Crockett has been appointed to that of Anatomy. — *Philadelphia (Medico-Chirurgical College):* Dr. P. S. Donellan has been appointed Lecturer on Clinical Medicine, and Dr. H. S. Andus Lecturer on Physical Diagnosis.

MEDICAL MAGISTRATE.—Dr. James Wallace of Greenock has been sworn in by the sheriff a justice of the peace for the Greenock burgh district.

BEQUESTS AND DONATIONS TO HOSPITALS.—The late Mr. John Steele of Boroughbridge has bequeathed £2000 each to the Leeds Infirmary, the Harrogate Royal Bath Hospital, and the Harrogate Cottage Hospital.—Mrs. Williams Jones-Parry, of Craigle, Llandudno, has given £100 to form the nucleus for an endowment fund for the Sarah Nichol Memorial Cottage Hospital at Llandudno.—The late Miss Margaret Aitken has bequeathed £1000 to the Kilmarnock Infirmary.—Mr. E. F. Gyde, late of Ebley House, near Stroud, has left legacies of £500 each to the Stroud Hospital and the Gloucester Infirmary, and £200 each to the Bristol Infirmary, the Bristol Blind Asylum, the London Hospital for Incurables, the Earlswood Asylum for Idiots, and the Brompton Cancer Hospital, and £100 to the Cirencester Cottage Hospital.—The honorary treasurer of the Harrogate Royal Bath Hospital has received from the executors of the late Mr. Lupton Wright Dawson of Baildon, a legacy of £4000, free of duty, which is to be applied to the reduction of the debt existing on the building fund.—The late Mr. William Henry Worthington of Derwent Bank, Derby, and of Burton-on-Trent, has bequeathed £1000 each to the Burton-on-Trent Infirmary and the Derbyshire General Infirmary.

MIDWIVES REGISTRATION BILL.—At a meeting of the medical profession of Lancaster and neighbourhood held at the Storey Institute, Lancaster, on Sept. 17th, Mr. Colin Campbell and Dr. Brassey Brierley of the Lancashire and Cheshire Branch Committee attended on invitation and addressed those present. Dr. W. W. Wingate-Saul was voted to the chair and Mr. P. F. Mannix was elected secretary. The following resolutions were unanimously adopted: 1. That this meeting condemns the proposed legalisation of the practice of midwifery by others than those men or women who, in accordance with the Medical Act of 1886, are also possessed of the requisite knowledge of medicine and surgery. 2. That this meeting calls on the General Medical Council to declare "infamous in a professional respect" the conduct of those practitioners who, in defiance of the resolutions of the Council, continue to sell documents purporting to be "Diplomas," "Certificates," or "Licences" in "Midwifery" or the "Diseases of Women and Children," or other special subjects (other than ordinary "nursing"), to those persons who have not received a complete medical education as prescribed by the Medical Act, 1886, such documents being in the opinion of this meeting a gross imposition on the public. 3. That the honorary secretary be requested to send copies of these resolutions to the General Medical Council, the various branches of the British Medical Association, and all medical societies.

THE OPENING OF THE MEDICAL SCHOOLS.—Most of the medical schools of the metropolis will open as usual on Monday, Oct. 1st; but the opening address is no longer a *sine quâ non* at the ceremony, and several of our largest hospitals, it will be noticed, do not announce an introductory lecturer this year. At St. George's Hospital Dr. Isambard Owen, the dean of the school, will deliver the opening address. At Guy's Hospital this address will be given, as usual, before the Physical Society. Dr. Wilks, F.R.S., will preside, and the lecturer will be Mr. Lockhart Stephens. At St. Mary's Hospital Dr. Scanes Spicer will deliver the opening address; at the Middlesex Hospital, Dr. Boxall; at University College Hospital, Dr. H. R. Spencer; at Westminster Hospital, Mr. Gustavus Hartridge; and, at the School of Medicine for Women, Miss M. Sturge, M.B. Many of the schools which dispense with an introductory address announce some form of festive meeting for the opening occasion. At St. Bartholomew's Hospital, at Charing-cross Hospital, and at St. Thomas's Hospital there will be an assembly within the hospital buildings. At St. Bartholomew's Hospital there will be a dinner in the hall of the hospital; at Charing-cross Hospital there will be an evening reception, when the prizes for the year will be distributed by Professor Alexander Macalister, F.R.S. At St. Thomas's Hospital, after a distribution of prizes by the Rector of Lincoln College, Oxford (the Rev. W. W. Merry), the past and present students will dine together under the presidency of Dr. Clapton. Mr. Hutchinson, F.R.S., will preside over the annual dinner of the London Hospital; Sir William Dalby over that of St. George's Hospital; Mr. Watson Cheyne, F.R.S., over that of King's College Hospital; Dr. Danford Thomas over that of St. Mary's Hospital; Dr. J. Kingston Fowler over that of the Middlesex Hospital; and Mr. N. C. Macnamara over that of Westminster Hospital.

PRESENTATION.—Dr. Charles Pollard, on his resignation of the post of assistant medical officer of the St. George's Union Infirmary, which he had held for nearly eight years, has been the recipient of a valuable tea and coffee service from the officers of that establishment as a testimonial of their regard and esteem.

LITERARY INTELLIGENCE.—Messrs. Methuen and Co. announce that they will issue early in October an illustrated text-book by Mr. P. Chalmers Mitchell, M.A. Oxon., F.Z.S., Lecturer on Biology at the Charing-cross Hospital Medical College, and Examiner in Biology at the Conjoint Board. The work has been designed to cover the new schedule for elementary biology issued by the Conjoint Board, and is entitled "Outlines of Biology."—Mr. H. K. Lewis will shortly issue a ninth edition of "The Theory and Practice of Medicine," by Dr. Frederick T. Roberts. The same publisher also announces "The Dyspepsia of Phthisis," by Dr. W. Soltau Fenwick, and "Medical Nursing," by the late Dr. James Anderson, being notes of lectures given to the probationers at the London Hospital. A work by Professor William Osler, M.D. Lond., Professor of Medicine in the Johns Hopkins University, Baltimore, on "Chorea and Choreiform Affections," is also announced by Mr. Lewis for early appearance.

BOOKS, ETC., RECEIVED.

ARROWSMITH, J. W., Bristol; and WHITTAKER & Co., White Hart-street, London, E.C.
University College, Bristol. Calendar for the Session 1894-1895. Price 1s.

CASSELL & Co., London.
Diet and Cookery for Common Ailments. By a Fellow of the Royal College of Physicians and Phyllis Browne. 1894. pp. 307. Price 5s.
Premier of Hygiene. By Ernest S. Reynolds, M.D. Lond. Illustrated. 1894. pp. 164. Price 1s.

CHURCHILL, J. & A., New Burlington-street, London.
Descriptive Catalogue of the Pathological Specimens contained in the Museum of Guy's Hospital. Third Edition. Vol. I. Morbid Conditions of the Respiratory Organs and Alimentary Tract. 1894. pp. 451.

LONGMANS, GREEN, & Co., London.
The Playground of Europe. By Leslie Stephen. New Edition. 1894. Illustrated. pp. 339. Price 6s.

PENTLAND, Y. J., Edinburgh and London.
Prescribing and Treatment in the Diseases of Infants and Children. By P. E. Muskett. Third Edition. 1894. pp. 334.
The Treatment of Wounds, Ulcers, and Abscesses. By W. Watson Cheyne, M.B. Ed., F.R.S., F.R.C.S. 1894. pp. 197.

PRESS OF AMERICAN JOURNAL OF INSANITY, Utica, New York.
A Practical Manual of Mental Medicine. By Dr. E. Régis. Second Edition. Authorised translation by H. M. Bannister, A.M., M.D. 1894. pp. 692.

RIDER, W., & SON, Bartholomew-close, London, E.C.
A Healthy Home. By F. Vacher. Illustrated. pp. 204. Price 3s. 6d.

SIMPKIN, MARSHALL, HAMILTON, & Co., Stationers' Hall-court, London.
Physical Culture for Men, Women, and Children (Ling, Swedish System). By Arthur E. Tanner. 1894. pp. 29. Price 2s.

THE SCIENTIFIC PRESS, Strand, London, W.C.
Medical History from the Earliest Times. By Edward F. Withington, M.A., M.B. Oxon. Illustrated. 1894. pp. 424. Price 12s. 6d. net.

Tellustria: A Method for determining astronomically the Variations in the Temperature and Pressure of the Atmosphere; by B. G. Jenkins, F.R.A.S. (R. Morgan, Westow-street, Norwood, S.E., 1894); price 2s.—First Annual Report upon the Births, Marriages, Divorces, and Deaths in the State of Maine for the year ending Dec. 31st, 1892 (Burleigh & Flynt, Printers to the State, Augusta, 1894).—Brain: A Journal of Neurology; autumn, 1894 (Macmillan & Co., London); price 3s. 6d.—Archivio di Ortopedia; dal Dott. P. Panzeri; anno xi., fasc. 2-3, 1894 (P. Agnelli, Milano, 1894).—Diagnostic Palpation of the Appendix Vermiformis: Cases of Appendicitis; by G. M. Edebohls, A.M., M.D. (reprint from the American Journal of the Medical Sciences, May, 1894).—Pregnancy after Ventral Fixation of the Uterus; by G. M. Edebohls, M.D. (reprint from the Transactions of the New York Obstetrical Society).—Andrew Vesalius; by G. M. Cullen, M.D. Edin., reprint (J. Falconer, Dublin, 1894).—The Insurance Blue-book and Guide for 1894-1895 (Champness & Co., Ludgate-circus, London).—A case of Primary Tuberculosis of the Female Bladder, diagnosed and treated by Howard Kelly's New Method of Direct Inspection with large Endoscopes; by W. L. Burrage, M.D.; reprint (Damrell & Upham, Boston, U.S.A., 1894).—The Medical Magazine, September, 1894 (Southwood, Smith, & Co., London).—The Hotel: its Life, Management, and Interests; illustrated (London offices: 21, John-street, Adelphi, W.C.).—The Ophthalmic Review, August, 1894 (J. & A. Churchill, London); price 1s.—Proceedings of the Society for Psychical Research, August, 1894 (Kegan Paul, Trench, Trübner, & Co., London).—Budapest Souvenir; dedicated to the members of the Eighth International Congress of Hygiene and Demography at Budapest, 1894.—China: Imperial Maritime Customs; medical reports for the half-year ended March 31st, 1891; forty-first issue (P. S. King & Son, King-street, Westminster, S.W., 1894).—The American Historical Register: September, 1894 (The Historical Register Publishing Company, Philadelphia).—Concurrent Infections and the Formation of Cavities in Acute Pulmonary Tuberculosis; by T. Mitchell Prudden, M.D.; reprint from the New York Medical Journal, July, 1894.—The Quarterly Journal of Microscopical Science, August, 1894 (J. & A. Churchill, London).—Medical Spectacles and the Royal London Ophthalmic Hospital, Blomfield-street, Moorfields, E.C.; by A. Fournet (A. Fournet, 18, Bentinck-street, London, W., 1894); price 6d.—Ethics in Medicine in relation to Unorthodox Physic, with Excerpts from Extra-Therapy; by a West Riding Practitioner (R. Jackson, Leeds).—Dr. Robertson's Smaller Guide to the Use and Chemical Character of the Buxton Mineral Waters; twenty-fifth edition (The "Advertiser" Offices, Buxton, 1894).—Notes on the Climatology of California; by E. A. Hague (G. Falkner & Sons, Manchester).—Recherches sur l'Épilepsie, l'Hystérie, l'Idiotie et l'Hydrocéphalie; par Bourneville; vol. xiv. (Félix Alcan, Paris, 1894).—Die Extraktion der Zähne; von Prof. Dr. F. Busch (August Hirschwald, Berlin, 1894).—Magazines for September:—Strand; The Picture Magazine (Companion to the Strand Magazine); The Psychological Review, September, 1894 (Macmillan & Co., London).

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BALDWIN, F. J. A., L.R.C.P. Lond., has been appointed Medical Officer for the Seventh Sanitary District of the St. Saviour's Union.

CALLIER, HERBERT, M.D. Brussels, L.R.C.P. London and Edinburgh, M.R.C.S. Eng., L.S.A. Lond., has been appointed Medical Officer to the Great Yarmouth Union (South District) vice A. Meadows, L.R.C.P., Lond., resigned.

DOCKRELL, MORGAN, M.A., M.D. Univ. Dub., has been selected by the Educational Committee of St. John's Hospital for Diseases of the Skin to give the different courses of lectures during the next twelve months.

HICKS, THOMAS W., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer of the Highgate Division of the Great Northern Railway, and Medical Officer of the Sixth District of the Barnet Union.

JOHNSON, F., L.R.C.P. Irel., M.R.C.S., has been appointed Medical Officer for the Hedgerly Sanitary District of the Eton Union.

JORDAN, M. C. D'EXETER, L.R.C.P., L.M., L.R.C.S. Irel., has been appointed Medical Officer for the Newport Dispensary District, vice Davis, resigned.

MACKENZIE, W. L., M.B. Aberd., C.M., D.P.H., has been appointed Medical Officer of Health, Leith, vice Gray, resigned.

MARTIN, ANTONY A., M.R.C.S., L.R.C.P., late House Surgeon at St. Mary's Hospital, W., has been appointed Third Assistant Medical Officer to the Hants County Asylum, Fareham.

NAYLOR, R. G. ST. JOHN, L.R.C.P., F.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Third Sanitary District of the Lexden and Winstree Union.

PARRY, R. H., has been appointed Honorary Surgeon to the Royal Hospital for Sick Children, Glasgow, vice Professor Wm. Macewen, resigned.

ROBERTSON, JOHN, M.D. Edin., B.Sc. (Public Health), has been appointed Medical Officer of Health for the St. Helens Urban Sanitary District, vice McNicoll, resigned.

SHAW, R. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Liversedge Urban Sanitary District, vice Shives, resigned.

SMALL, J. DONALD, L.S.A. Lond., L.R.C.S.E., has been appointed Junior House Surgeon to the Miller Hospital and Royal Kent Dispensary

TREVES, WM. K., F.R.C.S., M. Eng., has been appointed (by the St. Pancras Guardians) Medical Officer to their school at Margate for convalescent pauper children.

USHER, CHAS. H., M.B. Cantab, F.R.C.S. Edin., has been appointed Ophthalmic Surgeon to the Royal Infirmary, Aberdeen.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

CANCER HOSPITAL (FREE), Brompton-road, S.W.—Two House Surgeons. Salary at the rate of £60 and £50 per annum respectively, with board and residence.

CHILDREN'S HOSPITAL, Nottingham.—House Surgeon for six months. Salary at the rate of £100 per annum.

CUMBERLAND INFIRMARY, Carlisle.—Assistant House Surgeon for one year. Salary £40 per annum, with board, lodging, and washing.

EAST LONDON HOSPITAL FOR CHILDREN, Glamis-road, Shadwell, E.—House Physician. Board, lodging, &c., provided.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, Bartlett's-buildings, Holborn.—Honorary Physician.

GENERAL INFIRMARY AND DISPENSARY, Doncaster.—In-door Dispenser and Assistant to House Surgeon. Board, lodging, and washing provided.

HULL ROYAL INFIRMARY.—Assistant House Surgeon. Salary £50, with board and furnished apartments.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £120 per annum.

MANCHESTER CLINICAL HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—House Surgeon. Salary £80 per annum, with apartments and board.

MANCHESTER SOUTHERN AND MATERNITY HOSPITAL.—Resident House Surgeon. Honorarium at the rate of £50 per annum and board.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician, House Surgeon, and Assistant House Surgeon. The House Physician and House Surgeon will each receive a salary at the rate of £60 a year. The Assistant House Surgeon will receive a salary at the rate of £30 a year.

NEWARK HOSPITAL AND DISPENSARY.—House Surgeon. Salary £80 per annum.

RIPON DISPENSARY AND COTTAGE HOSPITAL.—Resident House Surgeon and Dispenser, unmarried. Salary £70 per annum, with board and lodging.

SEAMEN'S HOSPITAL SOCIETY, *Dreadnought*, Greenwich, S.E. House Physician for *Dreadnought* Hospital, Greenwich. Salary £75 per annum, with board and residence.—House Surgeon for *Dreadnought* Hospital, Greenwich. Salary £50 per annum, with board and residence.—Junior House Surgeon for Branch Hospital, Royal Albert Dock, E. Salary £50 per annum, with board and residence. Applications to the Secretary, Greenwich.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.—Resident Medical Officer. Salary 100 guineas per annum, with an annual increase of 10 guineas to a maximum of 120 guineas, with furnished apartments, attendance, coal, and gas.

ST. OLAVE'S BOARD OF WORKS.—Medical Officer of Health for the district. Salary at the rate of £200 a year. Applications to the Clerk, Vine-street, Tooley-street, S.E.

THE COPPICE ASYLUM, Nottingham.—Assistant Medical Officer for private patients, unmarried. Salary £120 per annum, with apartments, board, attendance, and washing.

THE HOSPITAL FOR WOMEN (THE LONDON SCHOOL OF GYNÆCOLOGY), Soho-square, W.—Clinical Assistants.

THE VICTORIA INFIRMARY OF GLASGOW.—Superintendent and Resident Officer. Salary £300 a year, with board and lodging in the Infirmary, but the Governors are prepared to provide a house if a married man is appointed.

THE BOARD OF WORKS FOR THE WANDSWORTH DISTRICT.—Medical Officer of Health for the parish of Wandsworth. Salary £150 per annum, rising (subject to the order of the Board) by annual increments of £10 to £200 per annum. Applications to the Clerk to the Board, East-hill, Wandsworth, S.W.

THE ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Board, lodging, and washing provided.

Births, Marriages, and Deaths.

BIRTHS.

EMMETT.—On Sept. 15th, at Woodville, Kingston-road, Portsmouth, the wife of Richard Emmett, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

HINGSTON.—On Aug. 26th, at Liskeard, Cornwall, the wife of Richard Hingston, M.R.C.S., L.R.C.P., of a daughter.

JACOB.—On Sept. 12th, at Claremont, Horsforth, the wife of the late Ernest A. Jacob, M.D., Park-street, Leeds, of a son.

OLIVER.—On Sept. 15th, at Ellison-place, Newcastle-upon-Tyne, the wife of Thomas Oliver, M.D., F.R.C.P., of a daughter.

MARRIAGES.

GOURLAY—CONNOR.—On Sept. 12th, at St. Saviour's Church, Southwark, Frederick Gourlay, M.D., Southend-on-Sea, to Mary E. H. Connor, daughter of the late Marc Connor, Londonderry.

LANGWORTHY—LANGWORTHY.—On Sept. 11th, at St. George's Church, Modbury, William Southmead Langworthy, M.R.C.S., L.R.C.P. Lond., only son of the late Mr. Southmead Langworthy, to Ethelind Marion, eldest daughter of the late Mr. J. M. B. Langworthy, of Salcombe, Devon.

LIGHTFOOT—DODDS.—On Sept. 19th, at St. Michael's Church, Stockwell, by the Rev. S. Bell, M.A., J. P. Lightfoot, M.R.C.S. Eng., L.R.C.P. Lond., of Leyburn, Yorks, to Kate Marian, eldest daughter of R. R. Dodds, Esq., of 33, Stockwell-park-crescent.

PERCEVAL—MAYOR.—On Sept. 11th, at St. Mary Abbott's, Kensington, Frank Perceval, M.R.C.S., L.R.C.P., to Maude, youngest daughter of the late William Mayor.

WHITESTONE—GOLDSMID.—On Sept. 18th, at All Saints' Church, Hollingbourne, Kent, Augustus Mayberry Whitestone, M.B., eldest son of Berkeley E. Whitestone, Esq., of Dublin, to Jessie Heron, third daughter of Major-General Sir Frederic Goldsmid.

DEATHS.

CARTER.—On Sept. 14th, at Old Steyne, Brighton, Henry Freeland Carter, M.D., F.R.C.S., in his 74th year.

DANSON.—On Sept. 12th, at St. John's-wood-road, Henry Danson, M.D., in his 81st year.

GREENHILL.—On Sept. 19th, at The Croft, Hastings, William Alexander Greenhill, M.D. Oxon., in his 81st year.

WHITE.—On Sept. 8th, 1894, in Queensland, Australia, Thomas George White, J.P., L.R.C.S.I., Surgeon to Geraldton Hospital and Chairman of Divisional Board.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 20th, 1894.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo.	Maximum Temp Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Sept. 14	30·36	E.	56	53	97	65	53	...	Dull
,, 15	30·37	E.	58	56	81	62	56	...	Foggy
,, 16	30·37	N.E.	58	56	73	61	54	...	Overcast
,, 17	30·29	N.E.	57	54	77	61	54	...	Overcast
,, 18	30·18	N.E.	58	57	92	66	56	...	Overcast
,, 19	30·11	N.W.	56	54	76	67	53	...	Foggy
,, 20	30·09	E.	57	56	68	61	55	...	Foggy

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

IN order to facilitate the work of reference to the volumes of THE LANCET, duplicate copies of the Index to each half-yearly volume are published in a form in which they may be subsequently filed or bound together. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Manager of THE LANCET.

ADVERTISEMENT FOR A MEDICAL STUDENT.

TRULY this is an advertising age. We are asked to send a representative on Monday next to a great London hotel to witness a presentation to be made to the son of Dr. —— of ——, who has just arrived in London to enter upon his medical studies. What next? We omit names in the interest of this young man, whose friends are doing their best to spoil him. Doubtless the promoters intend a deserved compliment to the father of the young man. But they are sadly ill-advised in their methods.

M.R.C.S.—Tuke's Dictionary of Psychological Medicine (Churchill); Savage on Insanity (Cassell).

Dr. Berglind.—The information sought will be found in the Medical Directory.

Scalpel.—We think B.'s view is correct.

"AN INQUIRY."

To the Editors of THE LANCET.

SIRS,—With reference to an inquiry in your last issue I beg to say that I do not think there is much use in charging mileage to small farmers and agricultural labourers. The usual charge is 2s. or 2s. 6d., irrespectively of distance, for visit and medicine; but if there is a lengthened attendance even this must be modified.

I am, Sirs, yours truly,

Sept. 15th, 1894. NECESSITAS.

THE RELATIONS OF MEDICAL OFFICERS OF THE PUBLIC SERVICES TO GENERAL PRACTITIONERS.

A.—We are distinctly of opinion that where the proper performance of the duties which devolve on a Post-office medical officer involve inspection and the formation of a diagnosis in the case of a patient who is under the care and treatment of another medical practitioner, the conditions under which the visit of the postal medical officer should be paid are parallel with those which regulate the rare visits involving inspection of the sick which have at times to be paid by a medical officer of health. The Local Government Board have distinctly announced in the latter case that whenever "it may be desirable that the medical officer [of health] should make a personal diagnosis..... the medical practitioner in charge of the case should always be communicated with," and they have further expressed the opinion in such cases that "the customs that usually govern the relations of medical practitioners to each other" should be observed. We fail to see any distinction in this respect between a medical officer of the Post-office and a medical officer of health. There is no question here, as one of our correspondents observes, of "first obtaining the consent" of the medical practitioner in question. If such "consent" were withheld, the medical officer of the Post-office and the medical officer of health alike would have to perform their respective duties. The point is that the traditions of the medical profession have regulated that such a duty as is here in question should be performed subject to the courtesy of first communicating with the medical practitioner in attendance.

Mr. H. Thomas.—We do not recommend individual practitioners or suggest medical treatment. Our correspondent's case is one requiring medical attention, and that he will be able to obtain from his local medical man.

Dr. Herbert J. Slane.—We do not think our correspondent has quite understood the tenor of the letter to which he has taken exception.

"THE CUROPATHIC BOTANIC INSTITUTE."

To the Editors of THE LANCET.

SIRS,—Could not some action be taken against the perpetrator of the enclosed? Notice the signature "M.B." It was sent to a patient of mine in reply to a letter from him written on seeing an advertisement in the *Western Morning News*. If you care to send it on to any Society you may. The device is appropriate, is it not?

I am, Sirs, yours faithfully,

Exeter, Sept. 14th, 1894. R. A. BREMNER.

*** The following remarkable document was enclosed in Dr. Bremner's letter. We reproduce it *exactly*, save for the name of the recipient and the pictorial device or trade-mark which the paper bears. This we agree with Dr. Bremner in considering appropriate, if it is intended in any way to pourtray summarily and graphically the patients who believe in Mayfield A. Lilly, M.B.D.; for it is a fool in proper motley and peaked cap. With regard to the mysterious title "M.B.D.," we should explain that the M.B. is printed and the D added in manuscript. The reasons for both addition and selection of the added letter are sufficiently obvious.—ED. L.

From
THE CUROPATHIC BOTANIC INSTITUTE,
35, Colston-street, St. Augustine's,
Bristol, Sept. 6th, 1894.
(Just above the Colston Hall.)

Mr. ——,

No. ——. Please quote number when replying.

Dear Sir,—Yours duly to hand. Having been away a few days the cause of delay, your case are like the many that often come under *my treatment*. I will charge you for a CURE or monthly treatment monthly treatment 30*s.* (take about 4 months) or permanent cure for 4 *guineas prepaid*, this will enclude advice medicine and correspondence until cured. I quite understand your complaint for the questions answered.

Yours faithfully and confidentially,
MAYFIELD A. LILLY, M.B.D.,
Professor and Curopathist.
(Lecturer on Anatomy and Botany.)

P.S.—All Letters from Gentlemen are opened and answered by Mr. M. A. Lilly.

All Parcels and Letters from us are sent in plain cover, nothing outside but name and address, and sealed.

All letters must contain stamped envelope.

☞ Please state how Parcels are to be sent.

MEDICAL DEGREES OF THE UNIVERSITY OF BRUSSELS.

To the Editors of THE LANCET.

SIRS,—In your issue of Sept. 8th inquirers as to the M.D. Brux. regulations are referred to me at 44, Ebury-street, S.W. My present address is 28, Victoria-street, Westminster.

I am, Sirs, yours faithfully,

Victoria-street, S.W., Sept. 18th, 1894. WALTER REEVE.

WINTER UNDERWEAR.

MR. JOHN ROGERSON, of 304, Brixton-road, S.W., has invented a new vest or jersey, called the "Riphokam," which fulfils in more directions than one the medical requirements of winter underwear for either sex. He considers that in the male the loins, and in the female the inter-scapular region, are left comparatively unprotected by the tailor and dressmaker. The waistcoat of the man is, as a rule, only backed with a calico lining, and this (or any warmer substitute that may be employed for calico) generally stops before the lumbar region is more than reached. The woman's corset, and, for that matter, all her underclothing, permit the region above the scapular spines to be exposed. It is to meet these defects in our underclothing that Mr. Rogerson has designed an under-vest which shall be of particular thickness over the spots where the extra warmth is required, and yet be woven in such a way that free transpiration will not be prevented, as it certainly would be by laying one piece of cloth over the other.

Messrs. Charles J. Grist and Co.—Our correspondents are referred to an article in THE LANCET of Aug. 25th, 1888, where they will find that we have alluded to the subject.

A NEW HEALTH RESORT IN THE MEDITERRANEAN.

To the Editors of THE LANCET.

SIRS,—It may interest the readers of THE LANCET to hear of a new and promising winter health resort in the Mediterranean. I refer to Cyprus. To the million Cyprus conveys but little. To the many it suggests a barren land, and anything but health. To the few it speaks of a land of beauty, intense interest, and an exquisite climate. It is true that there are barren spots; it is equally true that it simply abounds in scenes of superb loveliness.

It has been said that "fever" is rife in Cyprus. No greater calumny could be uttered. There are certain marshy districts where "malaria" claims her tribute, though even so with a gentle voice, for the type is mild. Unhappily for the island's reputation, it was in a marshy district that our troops were first landed and encamped, and fever followed, but I believe I am correct in stating that there were only two fatal cases, and even these could not be laid absolutely at the doors of the fever.

In the extreme south of Cyprus is a deep bay in which lies Limassol, sheltering under the lee of Cape Gotto; here is to be found a climate during the winter months—say, from November to May—whose characteristics are a *perfect equability* and a champagne air, deliciously exhilarating and health-giving. At present there is but limited accommodation for visitors; this will speedily be rectified when the demand shall be made. There is, however, a hotel, with a pretty garden running almost to the edge of the sea and the inevitable tennis-ground. Arrangements are being made for a necessarily limited party to occupy this hotel during the ensuing winter. It is proposed to leave England in the second week of November, returning about mid-April.

I shall be glad to furnish information to anyone wishing to join the party if he will write to me at 2, Medina-villas, Brighton.

I am, Sirs, yours truly,

September, 1894. CHARLES J. SMITH.

THE TREATMENT OF SNAKE-BITES.

To the Editors of THE LANCET.

SIRS,—For several years I have been investigating the bite of the rattlesnake and poisonous insects, and have succeeded in the preparation of what I believe to be a chemical antidote for nearly all known animal poisons. I have had excellent opportunities for testing the remedy for bites of all snakes peculiar to this country, as also insects, and I find that in all cases where the antidote is used at once very little effect results, even from the bite of our most venomous rattlesnakes; and even after a lapse of several hours the antidote, used internally and externally, gives excellent results. My object in writing to you is to have the antidote tried in India, where, I believe, a great number of persons die from the bites of poisonous serpents. You probably can let me know with whom to communicate on the subject. The remedy is not a patent medicine, but will be given to the profession for the good of humanity as soon as I can have it tried in India and South America. I do not wish to publish something which may prove useless in those countries. Please find out for me persons interested in this subject, and I will forward them at once, free of expense, a sufficient amount of the preparation for trial, with full instructions &c. As far as the rattlesnake is concerned the antidote is perfect, and I believe it will also prove effectual in the case of the cobra. To avoid trouble and expense in transportation, if you succeed in finding some person connected with the Department for India who is sufficiently interested to give the remedy a trial (perhaps best in connexion with the army), I will send the formula, and the medicine can be prepared either in England or India. It is inexpensive, quite simple, and can be prepared by any druggist. All I ask is to be protected in my labour of years, so that I may receive the credit of my investigations. I have been told that the Government has offered a reward for an antidote for the bite of the cobra. Of course, if such is the case, I will claim priority in case my antidote is effectual.

I am, Sirs, very truly yours,

Corpus Christi, Texas, June 26th, 1894. ARTHUR E. SPOHN.

"TOE POST" SHOES.

THE design of these shoes is to "cure bunions, flat-foot, bent toes, &c." The special point about them is that within the shoe there is a division, the "toe post" separating the apex of the shoe into two compartments, one of which receives the big toe and the other the remaining toes, while the whole shape of the shoe—to which the designers give the name "Natureform"—directs the toes towards the middle line of the body. Undoubtedly their shape would have a beneficial effect in the ordinary form of bunion, and when the toes had been distorted by much wearing of too pointed boots it would afford the foot a comfortable chance of regaining its natural lines. But the expression "flat-foot" covers more than one pathological condition, and it is certain that in most cases of flat-foot the fact of wearing a shoe whose internal border is cut to direct the toes inwards would not prove of much curative value. We consider that the designers, Messrs. Holden Brothers, 223½, Regent-street, are able to furnish a shoe that in proper cases might be a real surgical aid; but a surgeon's aid will be required in determining how far the "Natureform" shoe would assist the case of any individual patient suffering from flat-foot. A digitated sock or stocking is supplied by the makers for use with the shoe.

Alienist.—The *Scuola Positiva nella Giurisprudenza Penale* (the Positive School in Criminal Jurisprudence) is the title of the periodical started by Professors Lombroso, Ferri, Garofolo, and Fioretti to assert the claims of medico-psychology in the Italian law-courts. The last "fascicolo" contains articles on "Madmen and Delinquents," "The Contagion of Murder," "Homicidal Mania," and kindred themes, besides giving summaries of recent trials in which the plea of lunacy or imbecility or inhibitory paresis has been set up and sustained. It is published at the offices of the journal, 100, Piazza S. Bernardo, Rome.

Mr. Robert Monteith.—Bradshaw's Manual of Health Resorts. In this country: Hastings, Bournemouth, Torquay, and any South Devon or Cornwall resort.

THE NON-POISONOUS INFLUENCE OF MORPHIA ON FOWLS.

To the Editors of THE LANCET.

SIRS,—A lady patient of mine, wishing to destroy in the most humane way possible some fancy pet fowls, suggested that morphia should be given to them. To gratify her wish I gave them (six hens and a cock) one drachm of acetate of morphia in bread-and-milk sop, the whole of which they devoured with avidity. I watched them for about an hour, the morphia producing no visible effect. They retired to roost as usual. As the old cock did not crow at his accustomed hour, the lady consoled herself with the thought that the birds were dead. However, about an hour later the cock crowed more loudly than usual, exulting probably on account of the hens having deposited two eggs, which they had not done for four months previously. During the day the fowls appeared to be hungry and lively. Two days later I found them strong and well; I gave them each about twenty minims of Scheele's acid, the poisonous effect of which was almost instantaneous. I have since been told that a pigeon will eat a large quantity of opium without being influenced by it. This insensitiveness to opium probably applies to all oviparous bipeds; and, if so—why?

I am, Sirs, yours obediently,

Park-terrace, Regent's-park, Sept. 18th, 1894. E. WHITE.

R. H.—1. The best instrument for performing the operation of vaccination is the lancet. The lymph should be taken on the point and inserted by scratches or rubbing on the abraded surface, and some vaccinators find a half blunt needle better than a sharp one. A variety of instruments fitted with needle-points &c. have been devised, but the great advantage of the lancet is that it is very easily kept clean. 2. The questions set at the examination of the Conjoint Board for the final L.R.C.P. Lond. and the final M.R.C.S. Eng. can be obtained from Messrs. Taylor and Francis, Red Lion-court, Fleet-street, E.C.

CHEMICAL LABORATORY FITTINGS.

To the Editors of THE LANCET.

SIRS,—Will you or any of your readers kindly inform me of the best substitute for coal-gas in a small laboratory (in a house away from any gas service) for the analysis of water and similar prolonged examinations?

I am, Sirs, yours truly,

Sept. 14th, 1894. D.P.H.

*** Lamps are now constructed to burn common methylated spirit and to give just as powerful and satisfactory heating effects as gas-burners. Thus the Argand spirit-lamp will be found useful for many laboratory purposes. Messrs. Baird and Tatlock, 16, Cross-street, Hatton Garden, E.C., supply them, and would doubtless advise our correspondent also on the best burner for the analytical operations he mentions. Coal gas compressed in steel tubes might be used to supply ordinary laboratory burners, and could be obtained, we believe, at Orchard's, 100, High-street, Kensington.—ED. L.

THE TREATMENT OF RUPTURE.

To the Editors of THE LANCET.

SIRS,—I shall feel much obliged for information in THE LANCET about Mr. Sherman, of 64, Chancery-lane, who advertises in the *Daily Telegraph* that he cures rupture without the aid of trusses, which he says are *very injurious*. He has published a book of testimonials received from persons who state that they have been quite cured by wearing his "appliance," which is *not* a truss. His charge is one guinea for consultation *only*, and afterwards according to the nature of the case and the time likely to be occupied in effecting a cure.

I am, Sirs, yours truly,

Acton, Sept. 5th, 1894. G. N.

*** The gentleman to whom our correspondent refers is not on the Medical Register. We strongly advise our correspondent to have nothing to do with him, but to consult a duly qualified practitioner.—ED. L.

C. E. (Liverpool).—We do not recommend individual practitioners or advise our lay correspondent to attempt to deal with his symptoms himself after consultation of medical books. The condition is one that his local medical attendant can well advise him upon—with reference to the utility of taking another opinion among other things

CATTLE SLAUGHTERING.

To the Editors of THE LANCET.

SIRS,—Neither in your journal nor in the lay journals have I seen any allusion to the mode of killing as practised by the Spanish matador. His sword kills immediately. Why should not a similar method be used in the slaughter-house? I am, Sirs, yours faithfully,

Sept. 15th, 1894. H. F. S.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.).

TUESDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), Gt. Northern Central (2.30 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.).

THURSDAY.—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Chelsea (2 P.M.), Soho-square (2 P.M.), North West London (2 P.M.).

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.).

SATURDAY.—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

During the week marked copies of the following newspapers have been received:—*Rochdale Times, Swindon Advertiser, Haywood News, Alloa Weekly News, Buxton Chronicle, Irish News, Newcastle Chronicle, Christian World, Evening Telegraph (Dundee), Yorkshire Post, Leeds Mercury, Le Temps (Paris), Bombay Gazette, Bristol Mercury, Builder, Sunday Times, Liverpool Daily Post, Architect, Times of India, Courier de la Presse, Sanitary Record, Pioneer Mail, Reading Mercury, Weekly Free Press and Aberdeen Herald, Hertfordshire Mercury, City Press, Light, Western Morning News, Local Government Chronicle, West Middlesex Advertiser, Surrey Advertiser, Alnwick and County Gazette, Greenwich Herald, Local Government Journal, Echo, Torquay Times, Irish News, Glasgow Evening Citizen, Bedfordshire Times, Leicester Daily Post, Bicycling News, Sevenoaks Chronicle, Brighton Argus, Birmingham Mail, Falkirk Herald, Civil Service Gazette, Burton Chronicle, Roya, Cornwall Gazette, Law Times, Cuvestry Advertiser, Chester Courant, Citizen, Scotsman, Cape Times, Herne Bay Argus, Bolton Daily Chronicle, New Weekly (Manchester), New Zealand Herald, Surrey Mirror, Inverness Courier, Manchester Guardian, Kelso Mail, &c., &c.*

Communications, Letters &c. have been received from—

A.—Messrs. Atkinson and Philipson, Newcastle-on-Tyne; Messrs. Armour and Co., London; Apollinaris Co., Limited, London, Secretary of; A M.O.H. of 13 Years; A., London.

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C.—Dr. R. Craik, Coinsborough; Prof. M. Charteris, Gt. Malvern; Mr. Enrique Cortes, London; Mr. E. T. Collins, London; Messrs. Crossley, Moir, and Co., London; Messrs. G. Curling and Co., London; Messrs. Condy and Mitchell, London; Messrs. Cassell and Co., Ltd., London; Church Burial, Funeral and Mourning Reform Association, Hon. Secretary of; Clinical Research Association, London, Secretary of; Cumberland Infirmary, Carlisle, Secretary of.

D.—Mr. W. Dodds, Newcastle-on-Tyne; Dr. C. J. Dear, London; Doctor, London.

E.—Dr. C. S. Evans, Shaftesbury; Messrs. Edwards, Bennett, and Co., London.

F.—Dr. J. C. Fergusson, Great Malvern; Dr. H. Finley, Musselburgh; Dr. J. Findlay, Dumfriesshire; F. D., London.

G.—Dr. W. R. Gowers, London; Dr. J. H. R. Glenn, Dublin; Dr. J. Gairdner, Crieff; Dr. A. Gray, Bradford; Mr. T. Gurney, London; Messrs. C. J. Grist and Co., London; Glasgow Victoria Infirmary, Secretary of; Gayetty Paper Co., N.Y.

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J.—Mr. A. Jones, King's Norton; Messrs. Jarrold and Sons, Great Yarmouth; Jeyes' Sanitary Compound Co., Ltd., London; John, London; J. H., London; J. B., London.

K.—Dr. L. Kidd, London; Mr. B. Kühn, London; Mr. P. J. F. Kavanagh, London; Messrs. Kerin and Lynam, London.

L.—Dr. R. Lewins, London; Dr. T. M. Legge, Brighton; Mr. G. S. Leggatt, London; Mr. W. S. Low, Ilfracombe; Mr. T. G. J. Lavers, Edenburg, Orange Free State; Mr. W. E. Langton, London.

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Letters, each with enclosure, are also acknowledged from—

A.—Dr. E. Allen, Hawes; Dr. C. Aitkin, Carlisle; Mr. W. F. Abbott, Boscombe; Messrs. Armour and Co., London; A. B., London; A., London; Alpha, London; Alpha, Eastbourne; Aliquis, London.

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G.—Dr. L. Grant, Ballachulish; Mr. W. Gracie, Sherburn; Mr. J. H. Greensell, Martley; Mr. W. V. Griffith, Coedpoeth.

H.—Dr. W. S. Hedley, Brighton; Dr. H. J. Hardwicke, St. Leonards-on-Sea; Mr. R. Hingston, Liskeard; H., London; H. G., London; H. H, London.

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N.—Nottingham Children's Hospital, Secretary of.

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U.—Ulna, Buxton.

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